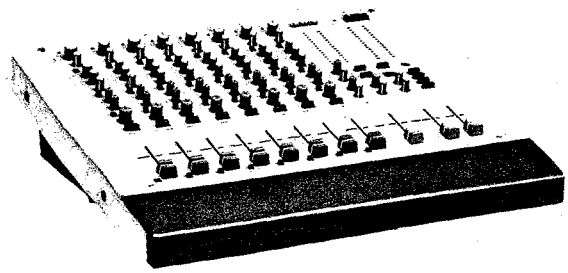
SONY

AUDIO MIXER

MXP-29



OPERATION AND MAINTENANCE MANUAL

2nd Edition

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

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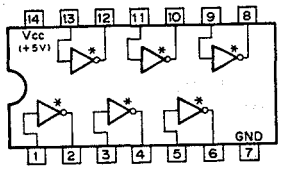
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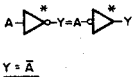
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SN7406N

SN7406N (TI)
TTL INVERTER BUFFER/DRIVER WITH OPEN-COLLECTOR
— TOP VIEW —

SN7406N





$Y = \overline{A}$

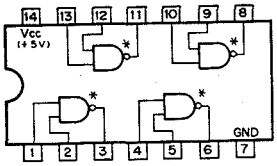
A	Y
0	1
1	0

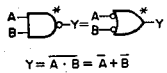
0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

SN7438N

SN74LS38N (TI)
TTL 2-INPUT POSITIVE-NAND GATE BUFFER
WITH OPEN-COLLECTOR
— TOP VIEW —

SN7438N





$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

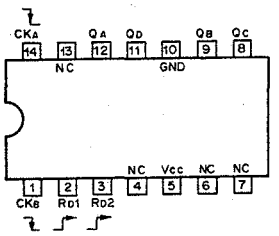
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

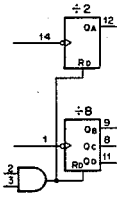
0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

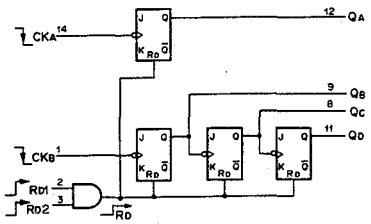
SN7493AN

SN74LS93N (TI)
TTL 1-BIT AND 3-BIT BINARY COUNTER
— TOP VIEW —

SN7493AN







COUNT SEQUENCE

÷2 SECTION

COUNT	QA
0	0
1	1

÷8 SECTION

COUNT	QD	QC	QB
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

RESET/COUNT FUNCTION

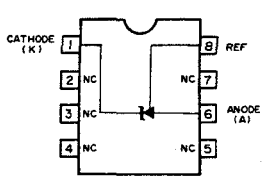
RESET IN		OUTPUTS			
R01	R02	QD	QC	QB	QA
1	1	0	0	0	0
X	0	COUNT			
0	X	COUNT			

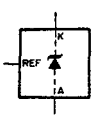
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TL431CP

TL431CP (TI)
ADJUSTABLE PRECISION SHUNT REGULATOR
— TOP VIEW —

TL431CP

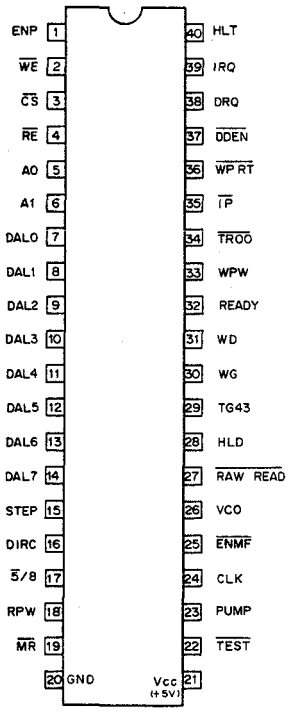


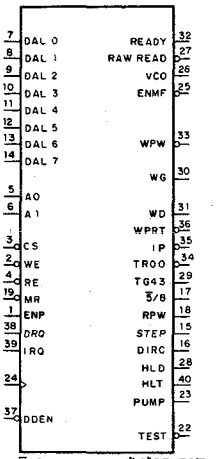


WD2793A-PL02

WD2793A-PL02 (WESTERN DIGITAL)
N CHANNEL E/D MOD FLOPPY DISK FORMATTER/CONTROLLER
— TOP VIEW —

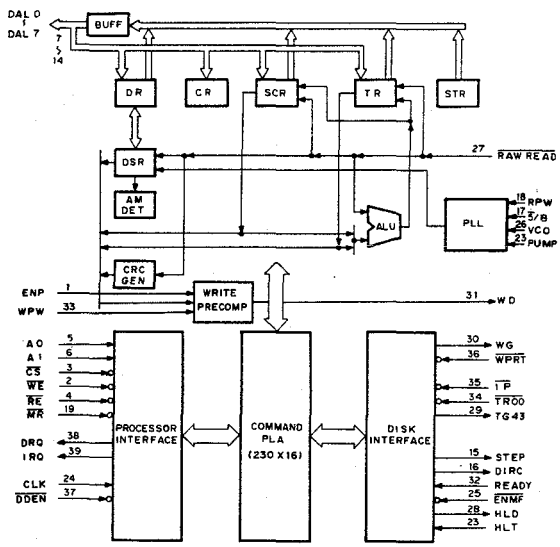
WD2793A-PL02(1/2)





5/8	; 5 1/4", 8" SELECT
A0, 1	; REGISTER SELECT LINES
CLK	; CLOCK
CS	; CHIP SELECT
DAL0-7	; DATA ACCESS LINES
DDEN	; DOUBLE DENSITY
DIRC	; DIRECTION
DRQ	; DATA REQUEST
ENMF	; ENABLE MINI-FLOPPY
ENP	; ENABLE PRECOMP
HLD	; HEAD LOAD
HLT	; HEAD LOAD TIMING
IP	; INDEX PULSE
IRQ	; INTERRUPT REQUEST
MR	; MASTER RESET
RE	; READ ENABLE
RPW	; READ PULSE WIDTH
TG43	; TRACK GREATER THAN 43
TR00	; TRACK 00
VCO	; VOLTAGE-CONTROLLED OSC
WD	; WRITE DATA
WE	; WRITE ENABLE
WG	; WRITE GATE
WPRT	; WRITE PROTECT
WPW	; WRITE PRECOMP WIDTH

WD2793A-PL02(2/2)



CR ; COMMAND REGISTER
DR ; DATA REGISTER
DSR ; DATA SHIFT REGISTER
SCR ; SECTOR REGISTER
TR ; TRACK REGISTER
STR ; STATUS REGISTER

REGISTER SELECTION

CS	A1	A0	RE = 0	WE = 0
1	X	X	NON SELECT	DAL = HI-Z
0	0	0	STR	CR
0	0	1	TR	TR
0	1	0	SCR	SCR
0	1	1	DR	DR

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

第1章
取り扱い操作

1-1. 概要

ソニーMXP-29は，放送用に，PA（拡声）用に，また録音テープの編集用に，1台で幅広く活用できるオーディオミキサーです。小型・軽量・薄型のデザインで，スタジオ使用はもちろん，ポータブル機として中継現場でも使用することができます。また，ビデオ機器の編集システムに組み込み，ビデオの編集機からのコントロールで，映像と音声を同時に編集することもできます。

調整機能の充実した8チャンネルの主入力
各入力別に，接続機器に合わせて入力レベルが切り換えられるだけでなく，チャンネルごとに独立したローカットフィルター，イコライザー等の補正回路を備え，きめ細かく多彩な音作りを可能にしました。
各入力の音像は，パンポット機能により，左右2チャンネルの出力空間に，自由に移動させることができます。

音に厚みを加える補助入出力
レベル，パンポットの基本調整だけに限定した2チャンネルの補助入力には，ミキシング効果を高めるエコーマシン，リバーブユニットなどが接続できます。
補助出力は，エコーマシン，リバーブユニットへの出力のほか，フォールドバックスピーカーへの出力も考慮し，メインのライン出力系とは完全に独立した2チャンネルとしました。

充実したモニター回路
ライン，補助入力への各信号はもちろん，必要に応じてモニター専用の端子を使って，外部信号をヘッドホンあるいは専用スピーカーで自由にモニターすることができます。さらに，各チャンネル別に入力信号のチェックができるPFL（Pre-Fader Listening）機構を加え，確実なミキシング操作を可能にしています。

外部機器によるコントロール
ソニーのエディティングコントロールユニットBVE-900などの外部機器から，各チャンネルの送出レベルの調整をすることができます。このような外部機器との組み合わせにより，映像と音声の編集タイミングを合わせた，効果的なビデオ編集が可能になりました。

コンデンサーマイク用電源供給
+48V（ファントム方式）のマイク電源を内蔵しています。

2電源方式
直流電源（+12V）と交流電源のどちらでも動作します。

容易なラックマウント
本来の据え置き型のデザインから，ドライバー1本で，EIAの19インチ標準ラックマウント型に変えることができます。

MXP-29R（日本国内限定モデル）
MXP-29とは，キャノンXLR型入・出力端子のメス，オスが反対になったモデルです。機能および操作方法，性能はまったく同じです。

1-2. 主な仕様

入力

0dBs＝0.775V

端子	入力数	形状	基準入力レベル	最大入力レベル	入力インピーダンス
MIC／LINE INPUT	8	MXP-29：XLR-3-31 相当品 MXP-29R：XLR-3-32 相当品	MIC：−60 dBs LINE：−20 dBs (TRIM調整つまみがMAXのとき)	MIC：0 dBs LINE：+24 dBs (TRIM調整つまみがMINのとき)	6 kΩ，平衡型
PHONO INPUT	2	ピンジャック	−44 dBs (1 kHz)	−14 dBs (1 kHz)	47 kΩ，不平衡型
LINE INPUT	6	ピンジャック	−10 dBs	+15 dBs	47 kΩ，不平衡型
SUB IN	2	ピンジャック	−10 dBs	+15 dBs	8 kΩ，不平衡型
EXT MON	2	MXP-29：XLR-3-31 相当品 MXP-29R：XLR-3-32 相当品	+4 dBs	+24 dBs	15 kΩ，平衡型

出力

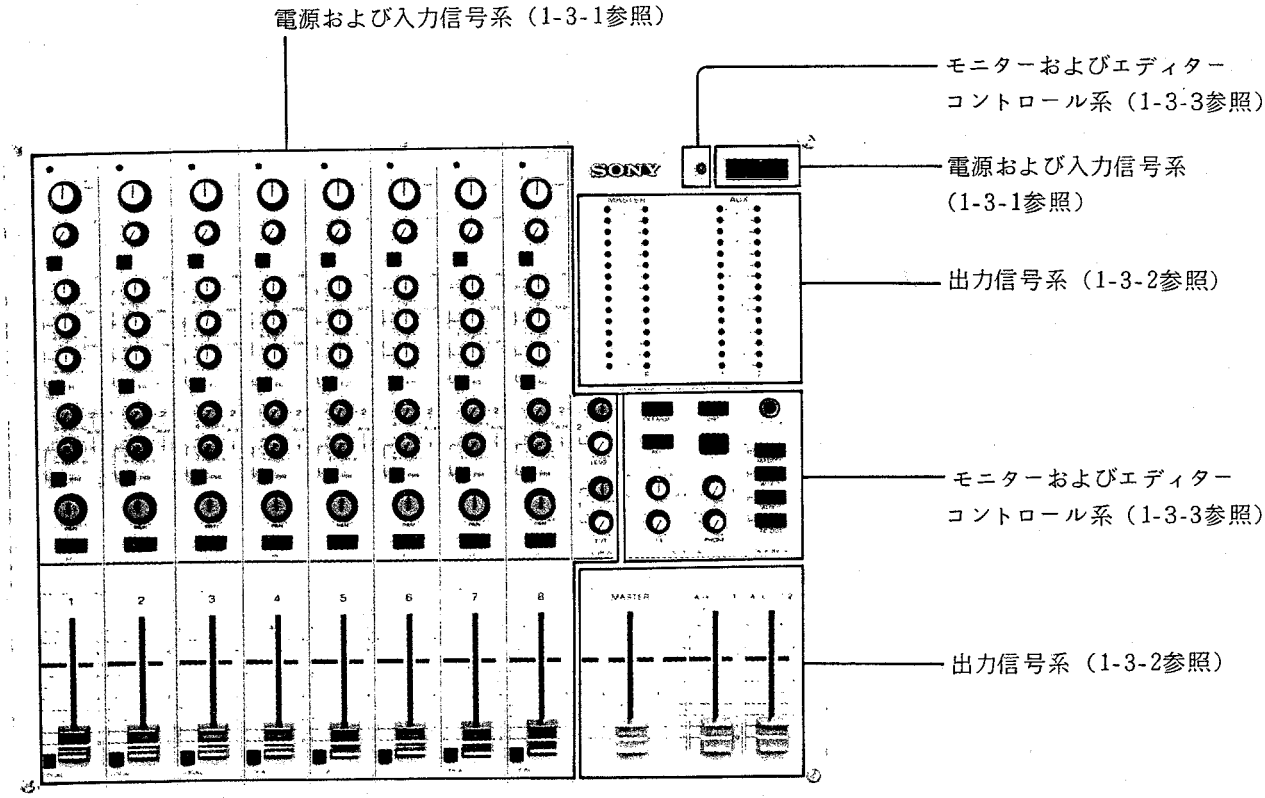
端子	出力数	形状	基準出力レベル	最大出力レベル	定格負荷インピーダンス
LINE OUT	2	MXP-29：XLR-3-32 相当品 MXP-29R：XLR-3-31 相当品	+4 dBs	+24 dBs	600Ω，平衡型
LINE	2	ピンジャック	−5 dBs	+15 dBs	10 kΩ，不平衡型
AUX	2	ピンジャック	−5 dBs	+15 dBs	10 kΩ，不平衡型
MONITOR	2	ピンジャック	−5 dBs	+15 dBs	10 kΩ，不平衡型
TB	1	ピンジャック	−5 dBs	+15 dBs	10 kΩ，不平衡型
HEADPHONES	1	ステレオ標準ジャック	1 mW	50 mW	8Ω，不平衡型

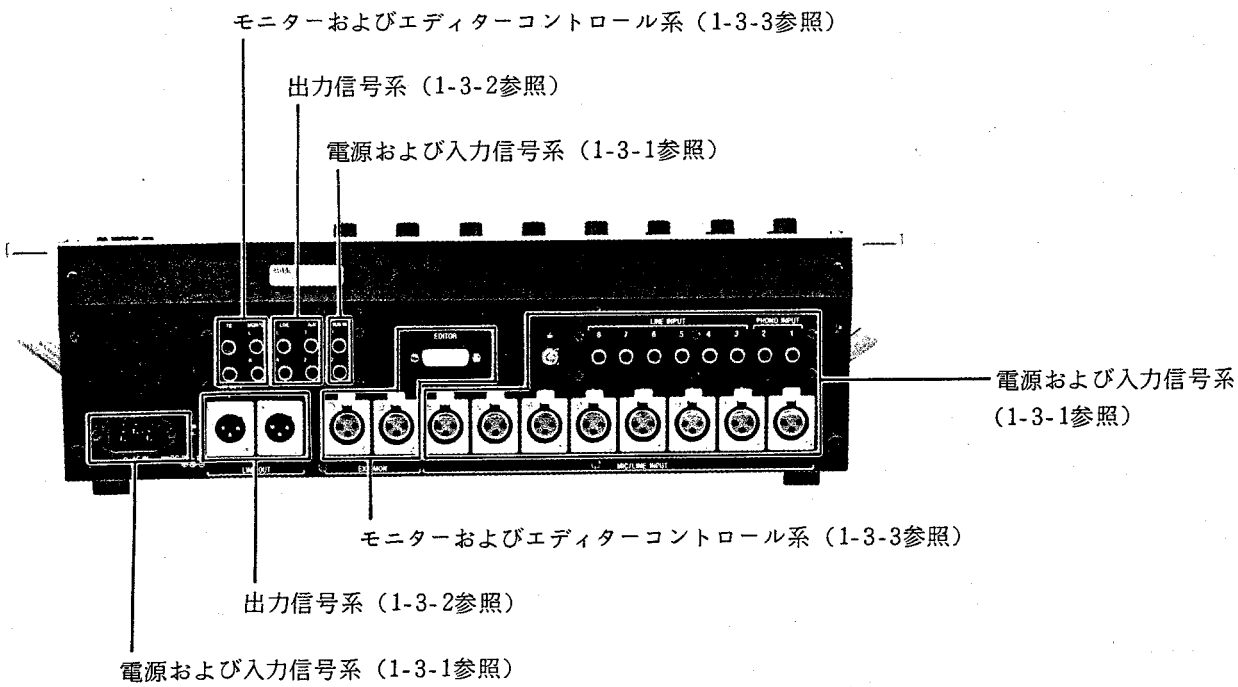
周波数特性	20 Hz～20 kHz $^{+0.5}_{-1.5}$ dB
高調波ひずみ率	0.3%以下（各出力の最大レベルにて，20 Hz～20 kHz）
入力換算雑音	
マイク入力	－123 dBs（入力150Ω接続時，20 Hz～20 kHz）
ライン入力	－80 dBs（入力0Ω接続時，20 Hz～20 kHz）
残留雑音	－85 dBs（マスターフェーダーOFFの位置） －70 dBs（チャンネルフェーダーOFFの位置）
クロストーク	
チャンネル間	60 dB（1 kHz）
出力バス間	60 dB（1 kHz）
イコライザー	
高音	10 kHz±15 dB，シェルビング
中音	2.8 kHz±15 dB
低音	100 Hz±15 dB，シェルビング
ローカットフィルター	120 Hz，12 dB／oct
オシレーター	
発振周波数	1 kHz
高調波ひずみ率	3％以下
トークバック用マイク	エレクトレットコンデンサー型内蔵
インジケーター（LINE出力L，R，AUX出力1，2共）	15素子LEDバーグラフVUメーター
電源	AC：100 V 50～60 Hz DC：+12 V
消費電力	AC：28 W DC：1.6 A
最大外形寸法	482×153×448 mm （幅／高さ／奥行き）
重量	約13 kg
動作許容温度	0℃～50℃
保存許容温度	－20℃～＋60℃
付属品	電源コード（1） オペレーションアンドメンテナンスマニュアル（1）

本機の仕様および外観は，改良のため予告なく変更することがありますが，ご了承ください。

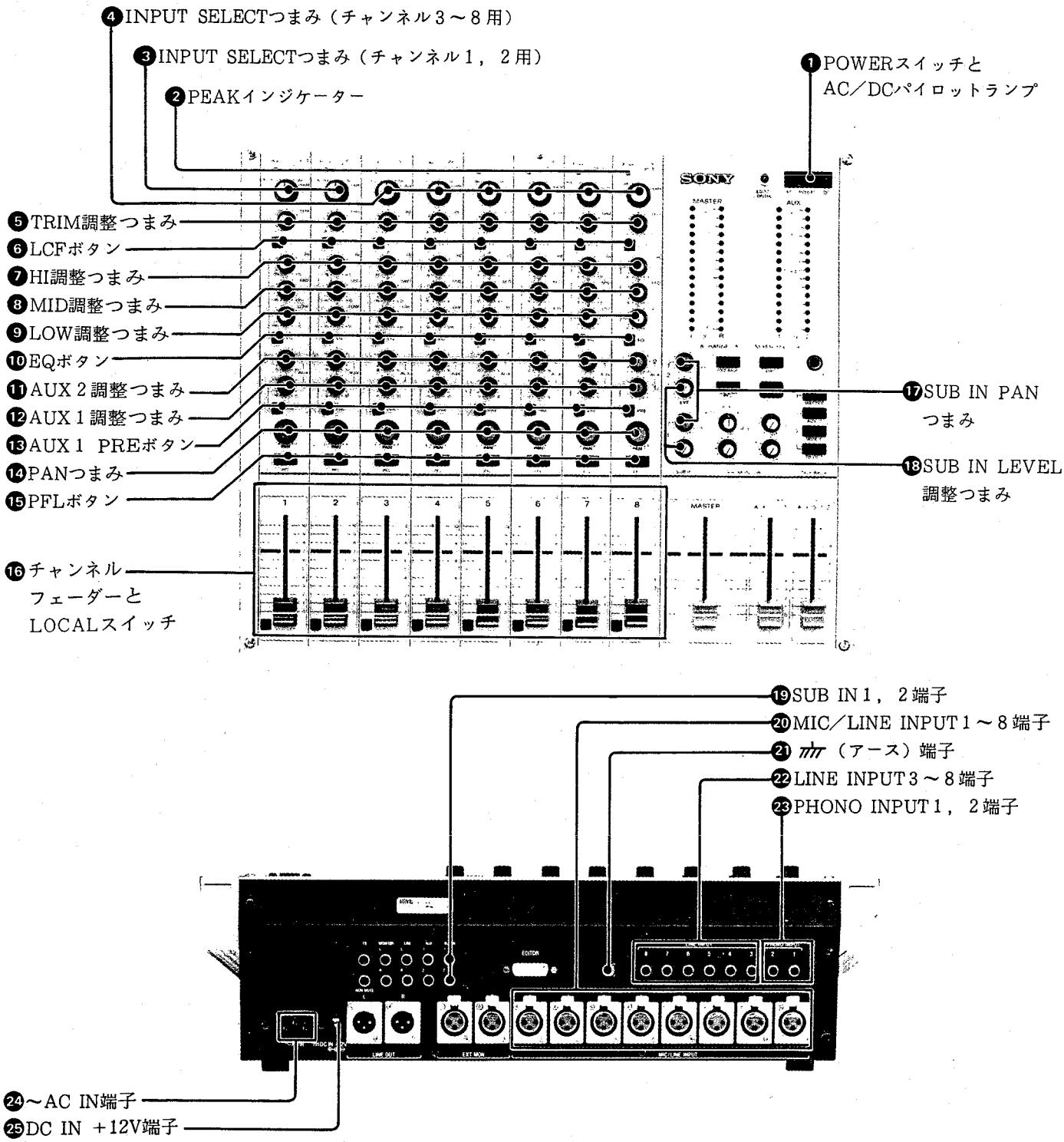
1-3. 各部の名称と説明

(写真はMXP-29を使用)





1-3-1. 電源および入力信号系



❶ POWER（電源）スイッチとAC／DCパイロットランプ

スイッチを押し込むと電源が入ります。AC電源がつながれているときはACパイロットランプが，DC電源がつながれているときはDCパイロットランプが点灯します。

- AC，DC両方の電源がつながれているときは，AC電源が優先します。パイロットランプは両方点灯します。

❷ PEAK（ピーク）インジケーター

入力信号をプリフェーダーの位置で検出し，許容入力レベル（クリップレベル）の約－5dBに達すると点灯し，過大入力を警告します。

❸ INPUT SELECT（入力切り換え）つまみ（チャンネル1，2用）

チャンネル1，2の入力信号を切り換えます。

PHONO：PHONO INPUT端子㉓に接続した信号

BAL LINE：MIC／LINE INPUT端子⑳に接続したライン入力信号

MIC：MIC／LINE INPUT端子に接続したマイク

MIC ＋48V：MIC／LINE INPUT端子に接続したファントム電源方式のマイク。＋48Vの電源をマイクに供給します。

❹ INPUT SELECT（入力切り換え）つまみ（チャンネル3～8用）

チャンネル3～8の入力信号を切り換えます。

UBL LINE：LINE INPUT端子（不平衡型）㉒に接続したライン信号

BAL LINE：MIC／LINE INPUT端子（平衡型）に接続したライン入力信号

MIC：MIC／LINE INPUT端子に接続したマイク

MIC ＋48V：MIC／LINE INPUT端子に接続したファントム電源方式のマイク。＋48Vの電源をマイクに供給します。

❺ TRIM（入力ゲイン）調整つまみ

各チャンネルの入力レベルを30dB調整します。INPUT SELECTつまみがBAL LINE，MIC，MIC ＋48Vに設定されているときのみ働きます。

各チャンネルフェーダーを標準位置にしたときに，適正な出力レベルが得られるように調整してください。また，PEAKインジケーターが点灯するような場合は，このつまみで入力レベルを絞ってください。

❻ LCF（ローカットフィルター）ボタン

押し込むと，信号がフィルター回路を通り，12dB／octのカーブで120Hz以下の信号をカットします。

低周波のハム音，モーター音，空調ノイズなどが気になるときや，マイクの近接効果で低音が必要以上に強調されるときなどに使います。

❼ HI（高音域）調整つまみ

高音域の周波数特性を調整し，音質の補正をします。調整範囲は，10kHzで±15dBです。

このつまみは，EQボタン❿が押し込まれているときだけ働きます。

❽ MID（中音域）調整つまみ

中音域の周波数特性を調整し，音質の補正をします。調整範囲は，2.8kHzで±15dBです。

このつまみは，EQボタン❿が押し込まれているときだけ働きます。

❾ LOW（低音域）調整つまみ

低音域の周波数特性を調整し，音質の補正をします。調整範囲は，100Hzで±15dBです。

このつまみは，EQボタン❿が押し込まれているときだけ働きます。

❿ EQ（イコライザー）ボタン

押し込むとイコライザー回路が働き，HI調整つまみ，MID調整つまみ，LOW調整つまみで周波数特性が調整できるようになります。

⓫ AUX 2（補助出力2レベル）調整つまみ

AUX 2（補助出力2）系へ送り出す，ポストフェーダーの信号レベルを各チャンネルごとに調整します。最大位置で10dBのゲインマージンがあります。

⓬ AUX 1（補助出力1レベル）調整つまみ

AUX 1（補助出力1）系へ送り出す信号レベルを，各チャンネルごとに調整します。最大位置で10dBのゲインマージンがあります。

⓭ AUX 1 PRE（補助出力1プリフェーダー）ボタン

AUX 1（補助出力1）系へ送り出す信号を，プリフェーダーの信号かポストフェーダーの信号か選択します。

押し込むと，プリフェーダーの信号を送り出します。

ボタンが押し込まれていないときは，ポストフェーダーの信号を送り出します。

⓮ PAN（パンポット）つまみ

各入力チャンネルの信号を，LINE OUT LおよびR間の任意の位置に定位させます。センタークリックの位置で，LとRに等分配され，音像は中央に定位されます。

⑮ PFL（プリフェーダーリスニング）ボタン

押している間は，各チャンネルの入力信号のプリフェーダー信号がPHONES端子㊱に送られます。
チャンネルフェーダーを0の位置にしたまま，前もって入力信号をチェックすることができます。
スピーカーモニターも必要な場合は，あらかじめ外部スピーカーPFLボタン㉟を押し込んでおいてください。

⑯ チャンネルフェーダーとLOCAL(ローカル)スイッチ

チャンネルフェーダーで各チャンネルの入力信号のレベルを調整します。太線の位置(7)が標準位置です。最大位置(10)で，10dBのゲインマージンがあります。
LOCALスイッチが押し込まれていないときは，入力信号のレベルは，チャンネルフェーダーの前段のVCA（Voltage Controlled Amplifier)回路により，EDITOR端子㊿からのコントロール信号で調整することができます。
LOCALスイッチが押し込まれているときは，そのチャンネルのVCA回路はEDITOR端子からのコントロール信号を受け付けなくなります。

⑰ SUB IN PAN（補助入力パンポット）つまみ

SUB IN 1，2端子⑲からの信号を，LINE OUT LおよびR間の任意の位置に定位させます。

⑱ SUB IN LEVEL（補助入力レベル）調整つまみ

SUB IN 1，2端子⑲からの入力信号レベルをそれぞれ調整します。最大位置で10dBのゲインマージンがあります。

⑲ SUB IN（補助入力）1，2端子（ピンジャック）

主入力系とは別に，パンポットとレベルの基本調整のみを備えた補助の入力端子です。
エコーマシンなどに一度入力した信号の再入力（エコーリターン）用などに使用します。

⑳ MIC／LINE INPUT（マイク／ライン入力）1～8端子（MXP-29：キャノンXLR-3-31相当コネクター，MXP-29R：キャノンXLR-3-32相当コネクター）

テープデッキ，アンプなどの出力（ライン出力），あるいはマイクロホンを接続します。必要に応じて，外部電源駆動のコンデンサーマイクに電源を供給することができます。
マイクとラインの切り換えは，対応するINPUT SELECTつまみで行います。
（1ピン：GND，2ピン：HOT，3ピン：COLD）

㉑ ⏚（アース）端子

プレーヤーなどの接続機器が，ハム，その他の雑音を取り除くためにアースを必要とする場合，この端子に接続します。

㉒ LINE INPUT（ライン入力）3～8端子（ピンジャック）

チャンネル3～8に，テープデッキ，アンプなどを接続するライン専用の入力端子です。MIC／LINE INPUT端子との切り換えは，INPUT SELECTつまみで行います。

㉓ PHONO INPUT（フォノ入力）1，2端子（ピンジャック）

MM型カートリッジ搭載のプレーヤーの出力（フォノ出力）を接続します。MIC／LINE INPUT端子との切り換えは，INPUT SELECTつまみで行います。

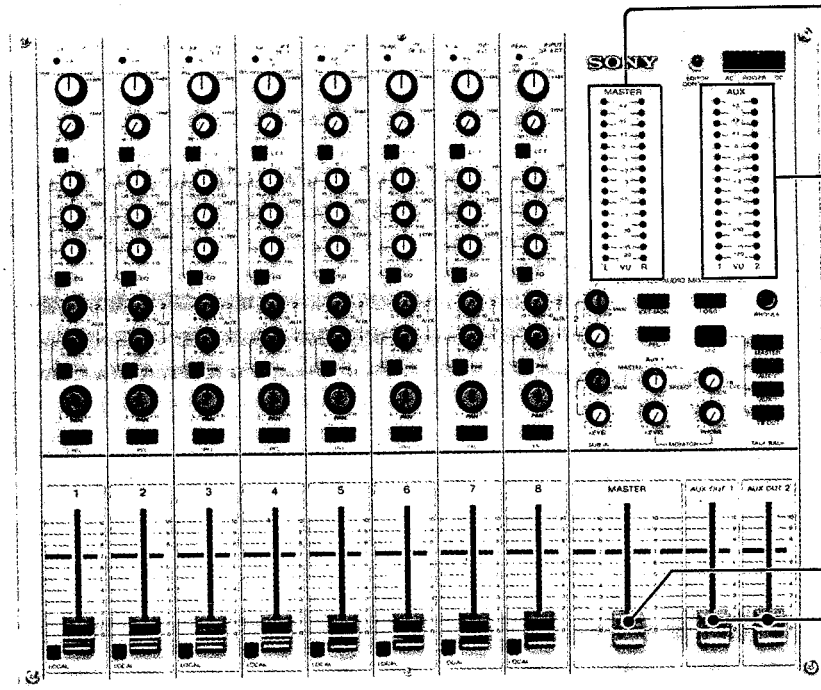
㉔ ～AC IN（AC電源入力）端子

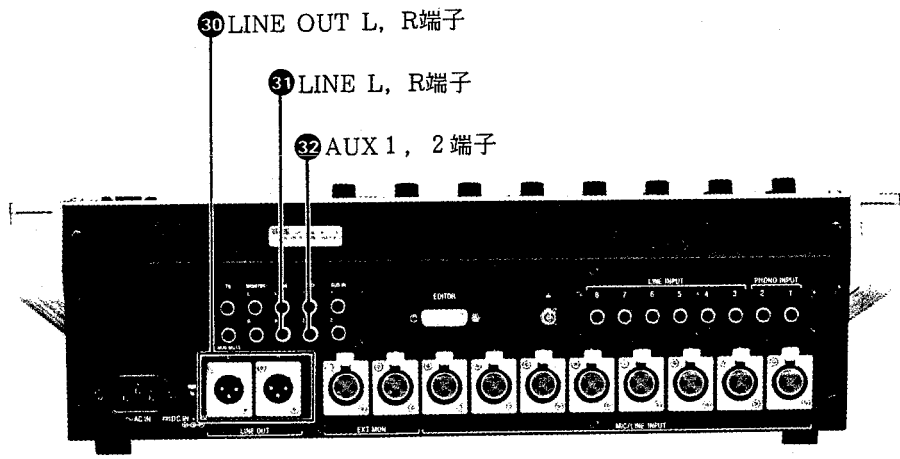
付属の電源コードでAC電源に接続します。

㉕ DC IN +12V（DC電源入力）端子

直流電源用の入力端子です。DC12Vの外部電源（ソニーバッテリーパックBP-90など）をつなぎます。
中継現場で電源車が着く前にマイクテストをしたいときや，交流電源での運用中のバックアップ用にも使えます。

1-3-2. 出力信号系


㉖MASTER VUメーター
㉗AUX VUメーター
㉘MASTERフェーダー
㉙AUX OUT 1，2フェーダー


㉚LINE OUT L，R端子
㉛LINE L，R端子
㉜AUX 1，2端子

㉖ MASTER VU（マスター出力レベル）メーター
通常は，ライン出力（LINE OUT端子㉚，LINE端子㉛の出力）のレベルを表示します。
EXT MONボタン㉝を押し込むと，EXT MON端子㊾に接続した信号のレベルを表示します。

㉗ AUX VU（補助出力レベル）メーター
補助出力（AUX 1，2端子㉜の出力）のレベルを表示します。

㉘ MASTER（マスター）フェーダー
LINE OUT端子㉚およびLINE端子㉛への出力レベルをL，R同時に調整します。太線の位置（7）が標準位置です。最大位置で10dBのゲインマージンがあります。

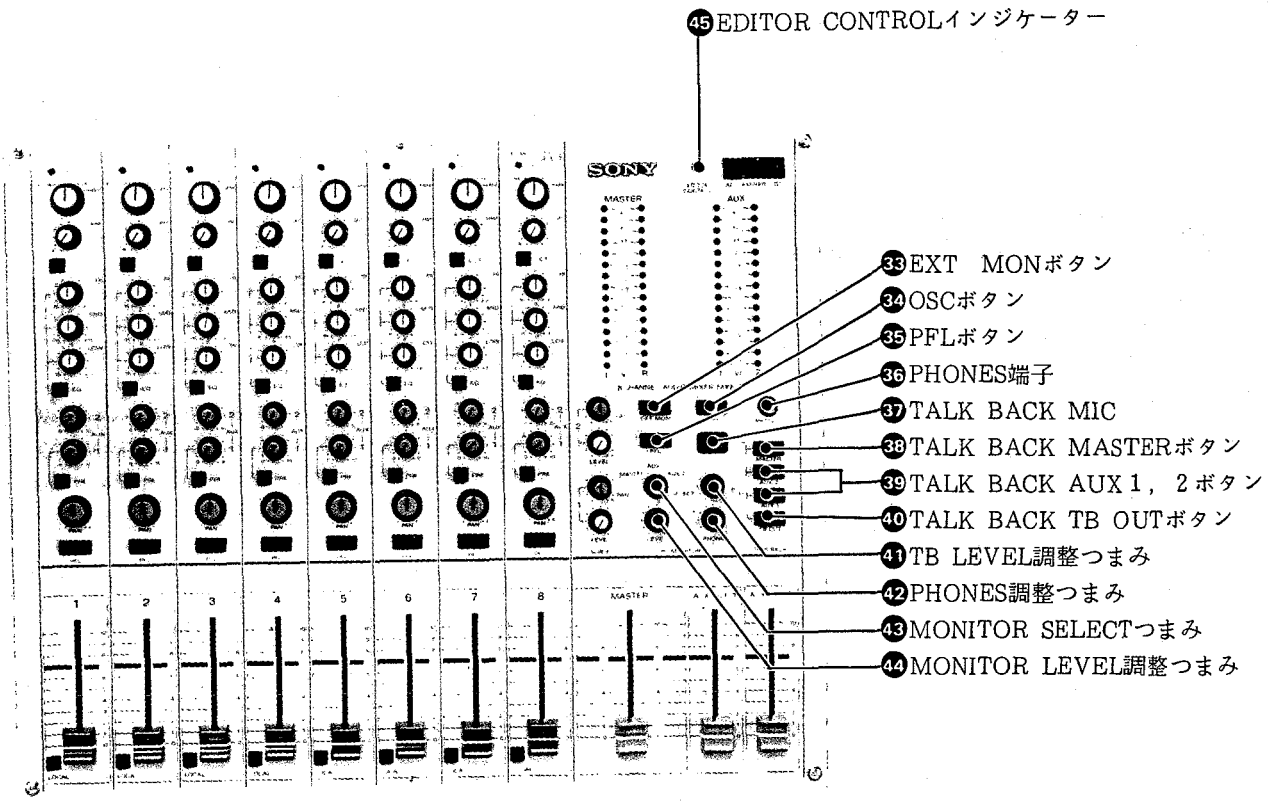
㉙ AUX OUT（補助出力）1，2フェーダー
AUX 1，AUX 2端子㉜への出力レベルをそれぞれ調整します。太線の位置（7）が標準位置です。最大位置で10dBのゲインマージンがあります。

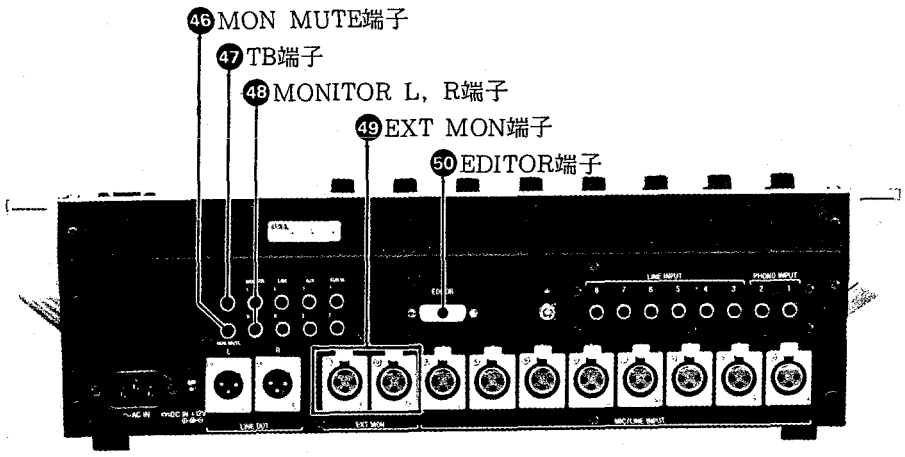
㉚ LINE OUT（ライン出力）L，R端子（MXP-29：キャノンXLR-3-32相当コネクター，MXP-29R：キャノンXLR-3-31相当コネクター）
ミキシングされた信号を出力する，平衡型の出力端子です。L，Rの出力レベルは，マスターフェーダーで同時に調整します。（1ピン：GND，2ピン：HOT，3ピン：COLD）

㉛ LINE（ライン出力）L，R端子（ピンジャック）
LINE OUT L，R端子と同じ信号の不平衡出力端子です。

㉜ AUX（補助出力）1，2端子（ピンジャック）
ラインの主出力（LINE OUT端子，LINE端子）とは独立してレベル調整ができる，不平衡型の補助出力端子です。エコーマシン，フォールドバックスピーカーなどに接続します。

1-3-3. モニターおよびエディターコントロール系





㉝ EXT MON（外部モニター）ボタン
押し込むと，EXT MON端子㊾からの信号をモニター系（PHONES端子㊱，MONITOR端子㊽）へ送り出します。またMASTER VUメーターは，EXT MON端子㊾に接続した信号のレベルを表示します。このボタンは，MONITOR SELECTつまみ㊸の設定に優先します。

㉞ OSC（オシレーター）ボタン
押し込むと，LINE OUT端子およびLINE端子に，基準レベルの1kHzのテスト信号（正弦波）が出力されます。テスト信号の出力レベルは，マスターフェーダーで調整することができます。

㉟ PFL（外部スピーカープリフェーダーリスニング）ボタン
このボタンを押し込んでおくと，各チャンネルのPFLボタンを押している間，PHONES端子㊱と同時に，MONITOR端子㊽にもプリフェーダーの信号が出力されます。スピーカーを使ってモニターしているとき，スピーカーでPFL信号をモニターすることができます。

㊱ PHONES（ヘッドホン）端子（ステレオ標準ジャック）
モニター用のヘッドホン（インピーダンス8Ω以上）を接続します。

㊲ TALK BACK MIC（トークバック用内蔵マイク）
トークバック用などに使うエレクトレットコンデンサーマイクです。TALK BACKボタン㊳㊴㊵で伝達先を選択します。

㊳ TALK BACK MASTER（マスタートークバック）ボタン
押している間，LINE OUT端子，LINE端子へ内蔵マイクからの音声が送出されます。MONITOR L，R端子㊽への出力は自動的にミュートされます。

㊴ TALK BACK AUX1，2（補助1，2トークバック）ボタン
押している間，AUX1，2端子へ内蔵マイクからの音声が送出されます。MONITOR L，R端子㊽への出力は自動的にミュートされます。

㊵ TALK BACK TB OUT（トークバック専用出力）ボタン
押している間，TB端子㊼へ内蔵マイクからの音声が送出されます。MONITOR L，R端子㊽への出力は自動的にミュートされます。

㊶ TB LEVEL（トークバックレベル）調整つまみ
内蔵マイクの音声出力レベルを調整します。

㊷ PHONES（ヘッドホンレベル）調整つまみ
PHONES端子への出力レベルを調整します。

㊸ MONITOR SELECT（モニター切り換え）つまみ
モニターする出力信号（PHONES端子，MONITOR端子への信号）を選択します。
MASTER：ライン出力
AUX 1：補助出力1
AUX 2：補助出力2
各チャンネルのPFLボタンおよびEXT MONボタンを押し込んだときは，つまみの位置に関係なくプリフェーダー信号，またはEXT MON端子㊾に接続した信号が選択されます。

㊹ MONITOR LEVEL（モニターレベル）調整つまみ
MONITOR端子への出力レベルを調整します。最大位置で10dBのゲインマージンがあります。

㊺ EDITOR CONTROLインジケーター
本機がソニーエディティングコントロールユニットBVE-900などの外部機器でコントロールされているとき点灯します。

㊻ MON MUTE（モニターミュート外部コントロール）端子（ピンジャック）
この端子をショートさせると，外部からのコントロールで，本機のモニタースピーカー回路をミュートすることができます。入力端子に接続したテープレコーダーの早送り，巻き戻し音などのミュートに有効です。

㊼ TB（トークバック出力）端子（ピンジャック）
TALK BACKのTB OUTボタンを押し込んでいる間，本機の内蔵マイクからの音声を出力します。トークバック専用スピーカー駆動用のアンプなどを接続します。

㊽ MONITOR（モニター出力）L，R端子（ピンジャック）
外部モニター用の出力端子です。スピーカーモニターをする場合，スピーカー駆動用のアンプを接続します。

㊾ EXT MON（外部モニター入力）端子（MXP-29：キャノンXLR-3-31相当コネクター，MXP-29R：キャノンXLR-3-32相当コネクター）
外部信号を直接モニター系へ送るための入力端子です。ビデオ編集時，VTRに記録した音声のチェックや，放送中継のエアーモニターなどに使います。
（1ピン：GND，2ピン：HOT，3ピン：COLD）

1-4. 外部機器によるコントロール

㊿ EDITOR（エディター）端子（D-SUB 15ピン）

本機を外部機器でコントロールするとき，コントロール機をこの端子に接続します。ピン配置は次のとおりです。

ピン番号	コントロール電圧	機能
1	0～5V（GND1に対して）	各チャンネルのVCA*のゲインを−20dB／Vで変化させる。CH1
2		CH2
3		CH3
4		CH4
5		CH5
6		CH6
7		CH7
8		CH8
9	GND1	
10	0V／OPEN（GND2に対して）	0V時，EXT MON L端子の信号がモニター系に割り込む。
11		0V時，EXT MON R端子の信号がモニター系に割り込む。
12		0V時，EDITOR CONTROL インジケーターが点灯する。
13		0V時，MONITOR端子の信号がミュートされる。
14	N.C.	
15	GND2	

*VCA : Voltage Controlled Amplifier

ソニーエディティングコントロールユニットBVE-900などの外部機器を使って，本機をコントロールすることができます。

BVE-900を接続するときは，BVE-900側にパラレルミキサーインターフェースボードBKE-916を装着し，BKE-916に付属のケーブルを使って接続します。これにより，ビデオの編集タイミングに合わせて，音声も同時に編集していくことができます。

BVE-900を使ってコントロールできるのは，次の3つの機能です。

1. 各チャンネルの送り出しレベルの調整

本機のLOCALスイッチが押し込まれていないとき，チャンネルフェーダーの前段で，VCAによりレベルを調整します。チャンネルフェーダーを基準位置(7)に設定しておいて，コントロールします。

2. EXT MON端子に接続した信号のモニター系への割り込み

本機のEXT MONボタンが押されていないとき，EXT MON端子に接続した信号を，L，R別々にモニター系へ割り込ませることができます。

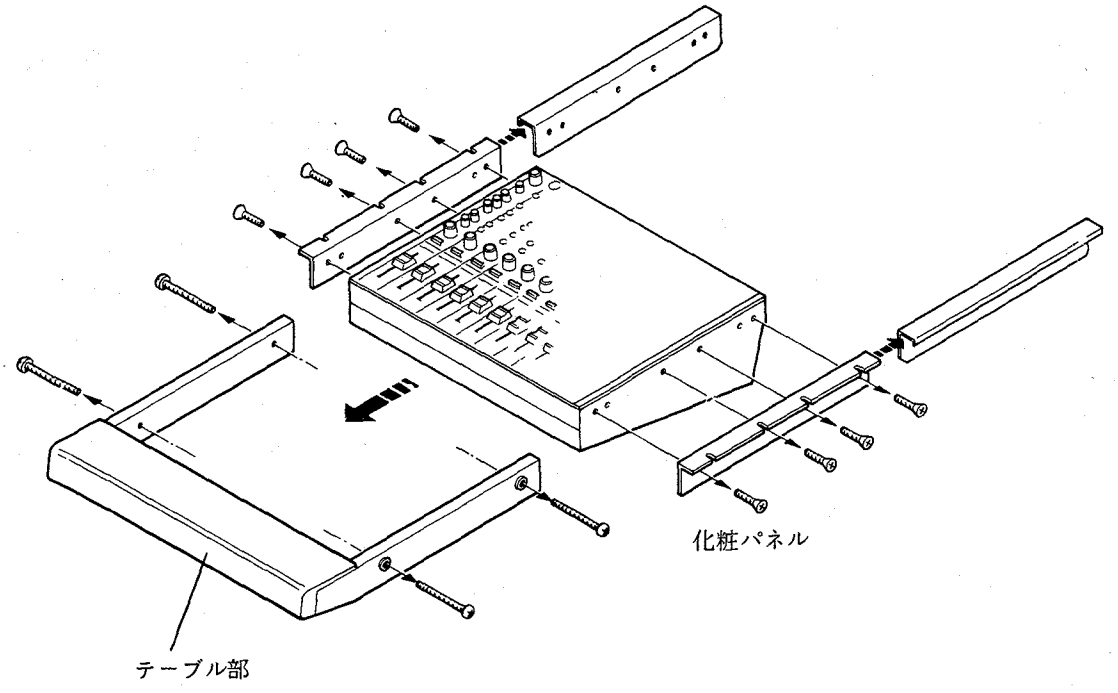
3. モニターのミューティング

MONITOR端子への出力信号をミュートすることができます。

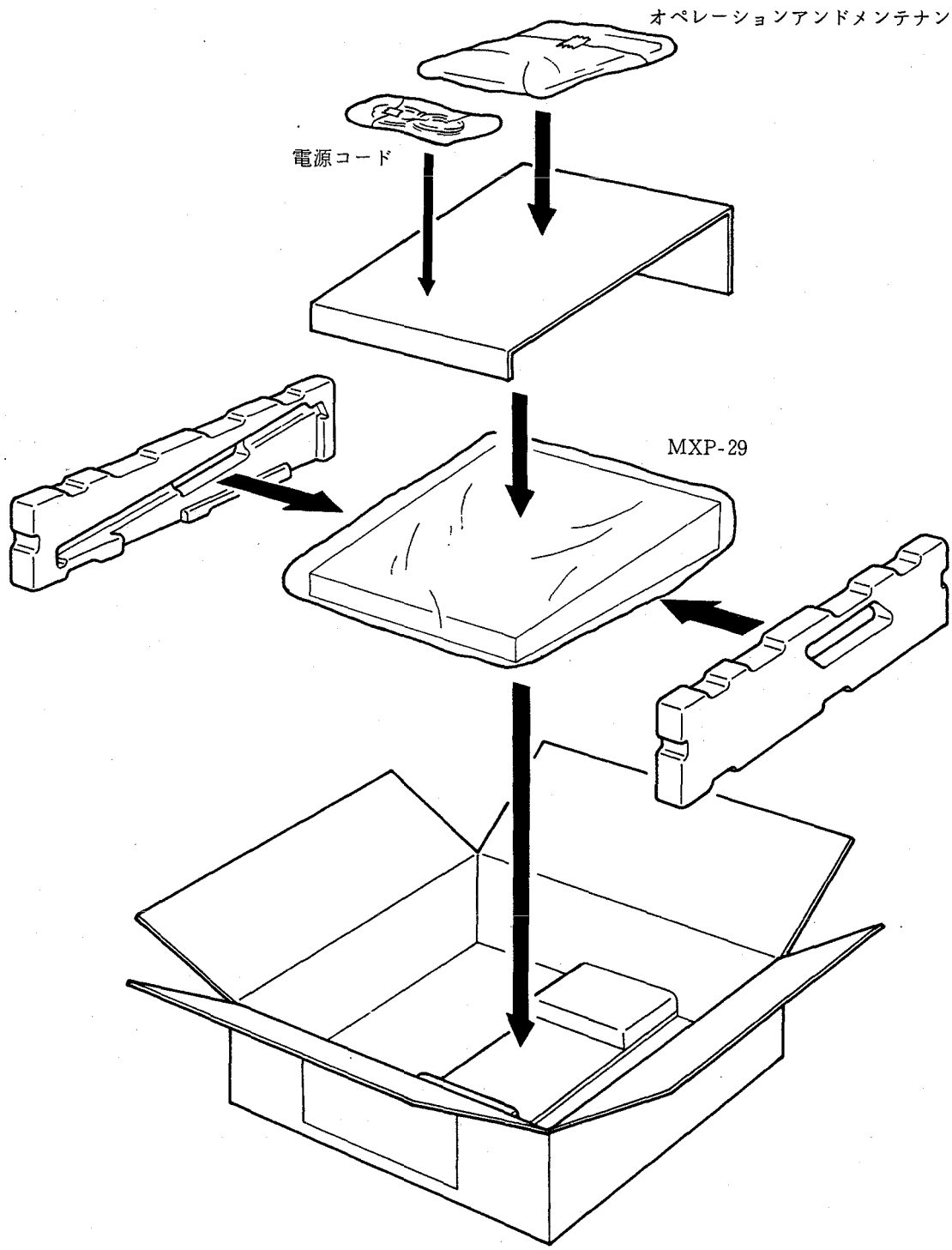
●BVE-900を使った操作について詳しくは，BVE-900に付属の説明書をご覧ください。

1-5. ラックマウント

本機をコントロールコンソールや，19インチの標準ラックに組み込むときは，下図を参照に，テーブル部や化粧パネルを取り外してください。



1-6. 梱包



SECTION 1
OPERATION

1-1. GENERAL

The Sony MXP-29 has been designed to be multi-purpose audio mixer capable of performing all the essential functions required for a public address system, radio and TV broadcasting, studio recording and tape editing. The compact and lightweight design demonstrates its ability especially outdoors for relay broadcasting. It can also be controlled by a video editing control unit so that the video and audio signals can be edited simultaneously.

8 channel inputs with various adjustment possibilities
Each input can be independently adjusted to suit the connected equipment and to provide excellent mixing results from its own low-cut filter and equalization circuits.
With the PAN POT (panoramic potentiometer) function, each input sound image can be positioned to the desired spot between the L and R stereo output channels.

Auxiliary inputs and outputs for additional mixing effects
By connecting an echo machine or a reverberation unit, additionally desired sound effects may be easily obtained.
One of the outputs can be used to supply signals to a fold-back speaker for players on the stage.

Monitoring of various signals
Each line and auxiliary output signal can be monitored either with headphones or speakers for accurate mixing. In addition, the PFL (pre-fader listening) function permits direct monitoring of each of the original incoming signals.

Control with an external equipment
In combination with an editing control unit such as a BVE-900, the output level of each channel can be controlled. So the audio signal can be edited in synchronization with a video signal.

Power supply circuits for condenser microphones
The built-in power supply circuits can supply the required power of 48V DC to connected microphones.

2-way powering
The MXP-29 can be operated either on AC power or on 12V DC.

Easy rack mounting
The table-top design can be easily converted for rack-mounting in a 19-inch standard rack.

1-2. SPECIFICATIONS

Input

0 dBs=0.775V

Connector	No.	Type of connector	Reference input level	Maximum input level	Input impedance
MIC/LINE INPUT	8	XLR-3-31 type	MIC : –60dBs LINE : –20dBs (when TRIM controls are set to MAX)	MIC : 0 dBs LINE : +24dBs (when TRIM controls are set to MIN)	6 kohms balanced
PHONO INPUT	2	Phono jack	–44 dBs (1 kHz)	–14 dBs (1 kHz)	47 kohms unbalanced
LINE INPUT	6	Phono jack	–10 dBs	+15 dBs	47 kohms unbalanced
SUB IN	2	Phono jack	–10 dBs	+15 dBs	8 kohms unbalanced
EXT MON	2	XLR-3-31 type	+4 dBs	+24 dBs	15 kohms balanced

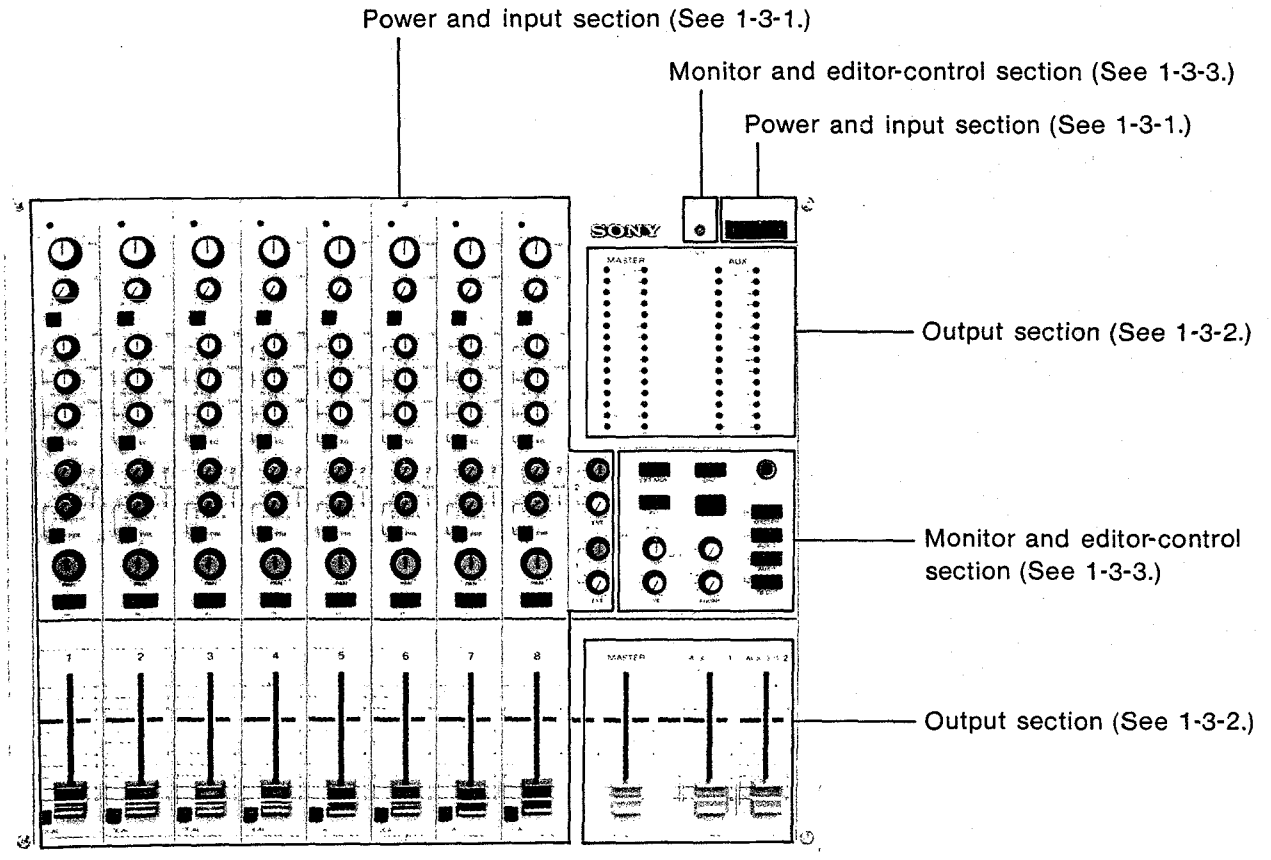
Output

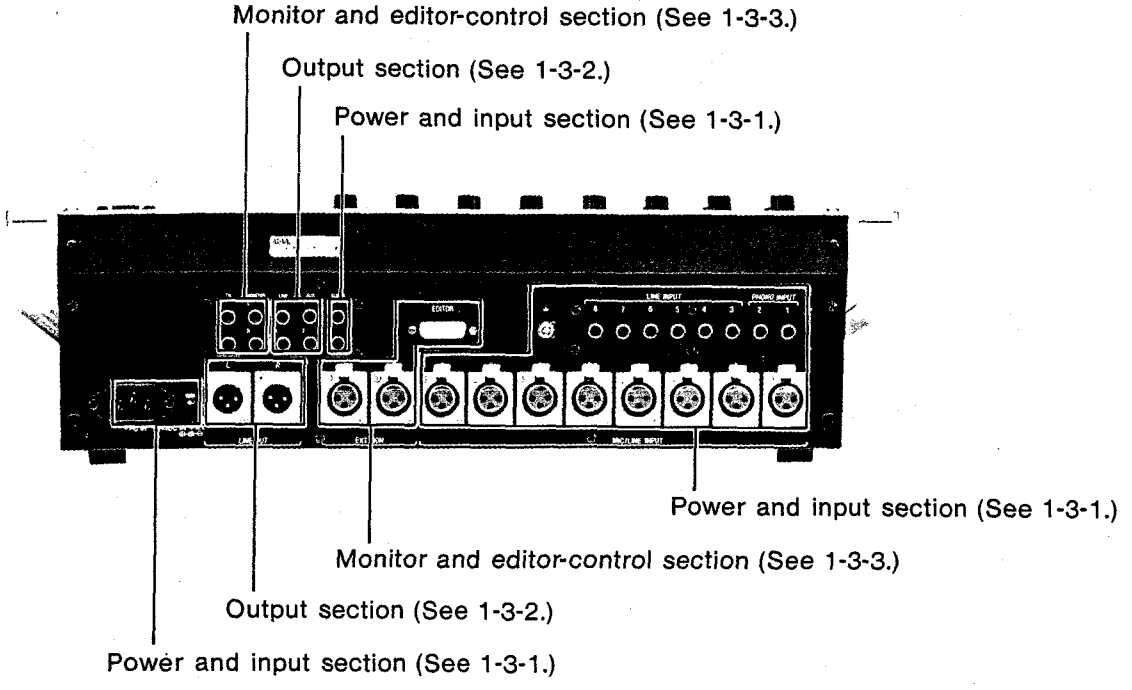
Connector	No.	Type of connector	Reference output level	Maximum output level	Rated load impedance
LINE OUT	2	XLR-3-32 type	+4 dBs	+24 dBs	600 ohms balanced
LINE	2	Phono jack	–5 dBs	+15 dBs	10 kohms unbalanced
AUX	2	Phono jack	–5 dBs	+15 dBs	10 kohms unbalanced
MONITOR	2	Phono jack	–5 dBs	+15 dBs	10 kohms unbalanced
TB	1	Phono jack	–5 dBs	+15 dBs	10 kohms unbalanced
HEDPHONES	1	Stereo phone jack	1 mW	50 mW	8 ohms unbalanced

Frequency response	20 Hz — 20 kHz $^{+0.5}_{-1.5}$ dB
Harmonic distortion	Less than 0.3% (under maximum output level, 20 Hz — 20 kHz)
Equivalent input noise	
Microphone input	−123 dBs (input 150 ohms terminated, 20 Hz — 20 kHz)
Line input	−80 dBs (input 0 ohm terminated, 20 Hz — 20 kHz)
Equivalent input noise	
Master fader at 0	Less than −85 dBs
Channel fader at 0	Less than −70 dBs
Cross-talk	
Between input channels	60 dB (1 kHz)
Between output buses	60 dB (1 kHz)
Equalizer	
High	10 kHz ±15 dB, shelving
Middle	2.8 kHz ±15 dB
Low	100 Hz ±15 dB, shelving
Low-cut filter	120 Hz, 12 dB/oct.
Oscillator	
Frequency	1 kHz
Harmonic distortion	Less than 3%
Talk-back microphone	Electret-condenser microphone
Indicators (Line output	L, R and AUX output 1 and 2) 15-element LED bar graph VU meters
Power requirements	AC: 120V (for United States and Canada) 100—120V/220—240V (for the other countries) 50/60 Hz DC: +12V
Power consumption	AC: 28W DC: 1.6A
Dimensions	approx. 482 × 153 × 448 mm (w/h/d) (19 × 6⅛ × 17¾ inches)
Weight	approx. 13 kg (28 lb 11 oz)
Operating temperature	0°C to 50°C (−4°F to +122°F)
Storage temperature	−20°C to +60°C (−40°F to +140°F)
Accessories supplied	AC power cord (1) Operation and maintenance manual (1)

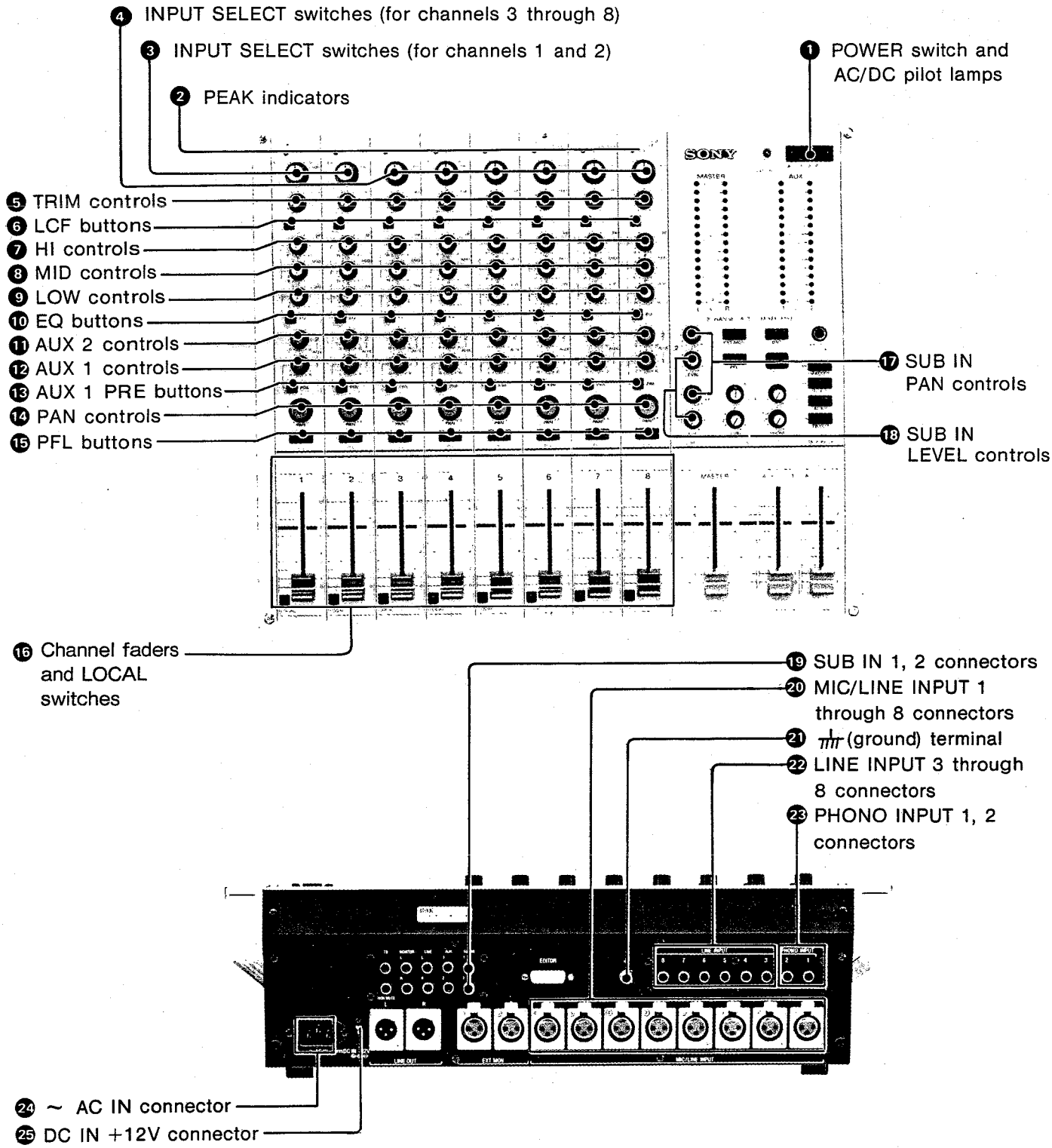
Design and specifications subject to change without notice

1-3. FUNCTION OF PARTS AND CONTROLS





1-3-1. Power and Input Section



❶ POWER switch and AC/DC pilot lamps
Depress the switch to turn on the unit.
When AC power is supplied, the AC pilot lamp will light.
When DC power is supplied, the DC pilot lamp will light.
- If both AC and DC power supplies are connected, the AC power takes prior to the DC power, and both the AC and DC lamps will light.

❷ PEAK indicators
Lights up if the corresponding input signal level is within 5 dB of the clipping level.

❸ INPUT SELECT switches (for channels 1 and 2)
Select the input sources to channels 1 and 2.
PHONO: Signal connected to the PHONO INPUT connector ㉓ .
BAL LINE: Line input connected to the MIC/LINE INPUT connector ⑳ .
MIC: Microphone connected to the MIC/LINE INPUT connector.
MIC +48V: Phantom powered condenser microphone connected to the MIC/LINE INPUT connector. Power of 48V DC is supplied to the microphone.

❹ INPUT SELECT switches (for channels 3 through 8)
Selects the input sources to channels 3 through 8.
UBL LINE: Unbalanced line input connected to the LINE INPUT connector ㉒ .
BAL LINE: Balanced line input connected to the MIC/LINE INPUT connector.
MIC: Microphone connected to the MIC/LINE INPUT connector
MIC +48V: Phantom powered condenser microphone connected to the MIC/LINE INPUT connector. Power of 48V DC is supplied to the microphone.

❺ TRIM (input gain) controls
Control the input signal level of each channel by 30 dB. These controls function only when the INPUT SELECT switches are set to BAL LINE, MIC or MIC +48V.
Adjust these controls so that the proper level can be obtained when each corresponding channel fader is set at "7".
Turn the controls counterclockwise when the corresponding PEAK indicators light up.

❻ LCF (low cut filter) buttons
When the buttons are depressed, input signals below 120 Hz are attenuated at a 12 dB/octave rate.

❼ HI (high frequency) controls
Adjust to equalize the sound sources for high-frequency range. The adjustable range is ±15 dB around 10 kHz.
These controls function when the EQ buttons ❿ are depressed.

❽ MID (middle frequency) controls
Adjust to equalize the sound sources for middle-frequency range. The adjustable range is ±15 dB around 2.8 kHz.
These controls function when the EQ buttons ❿ are depressed.

❾ LOW (low frequency) controls
Adjust to equalize the sound sources for low-frequency range. The adjustable range is ±15 dB around 100 Hz.
These controls function when the EQ buttons ❿ are depressed.

❿ EQ buttons
When these buttons are depressed, the input signals pass through the equalizer circuits, and the frequency response can be adjusted with the HI, MID and LOW controls.

⓫ AUX 2 (auxiliary output 2 level) controls
Adjust the signal level of each channel going to the auxiliary output 2. The gain margin at the maximum setting is 10 dB.

⓬ AUX 1 (auxiliary output 1 level) controls
Adjust the signal level of each channel going to the auxiliary output 1. The gain margin at the maximum setting is 10 dB.

⓭ AUX 1 PRE (auxiliary output 1 pre-fader) buttons
Selects the signal going to the auxiliary output 1, pre-fader signal or post-fader signal.
When the buttons are depressed, the pre-fader signals of the corresponding channels are fed to the auxiliary output 1.
When the buttons are released, the post-fader signals of the corresponding channels are fed to the auxiliary output 1.

⓮ PAN controls
These permit panning of the incoming signals between the output L and R channels. The click positions place the sound images in the center.

⑮ PFL (pre-fader listening) buttons
When the buttons are depressed, the pre-fader signals of the corresponding channels can be fed to the PHONES jack ㊱ .
The input signals can be monitored with the channel faders set to "0".
To feed the pre-fader signals to the monitor speakers, the PFL button ㉟ for an external speaker system should also be depressed.

⑯ Channel faders and LOCAL switch
Adjust the signal level of each channel going to the line outputs for proper balance. The position 7 (the thick line) indicates the reference level. The gain margin at the maximum setting is 10 dB.
When the LOCAL switch is released, the input signal level can be adjusted by the control signal connected to the EDITOR connector ㊿, which controls the VCA (voltage controlled amplifier) before the channel faders.
When the LOCAL switch of any channel is depressed, the VCA of that channel cannot be controlled by the control signal input to the EDITOR connector.

⑰ SUB IN PAN controls
Position the sound image from the SUB IN 1 or 2 connectors ⑲ in the desired place between the LINE OUT L and R channels.

⑱ SUB IN LEVEL controls
Adjust the signal levels from SUB IN 1 or 2 connectors ⑲ respectively. The gain margin at the maximum setting is 10 dB.

⑲ SUB IN 1, 2 connectors (phono jacks)
Accept auxiliary input signals such as those from an echo machine.

⑳ MIC/LINE INPUT 1 through 8 connectors (XLR-3-31 type)
Accept line-out signals of a tape deck or an amplifier, or microphone signals. The power can be supplied to the phantom powered condenser microphones if necessary.
(Pin assignment: 1; GND, 2; hot, 3; cold)

㉑ ⏚ (ground) terminal
When connected audio equipment such as a record player, which requires ground connection to reduce hum or other undesirable noise, connect its ground wire to this terminal.

㉒ LINE INPUT 3 through 8 connectors (phono jacks)
Accept line-out signals of tape decks and amplifiers for channels 3 through 8.

㉓ PHONO INPUT 1, 2 connectors (phono jacks)
Accept output signals of record players equipped with a magnetic-moving type cartridges.

㉔ ~ AC IN connector
Connect with the supplied AC power cord to an AC power source.

㉕ DC IN +12V connector
Accepts an external 12V DC power source, such as a Sony BP-90 battery pack.
The DC power backs up the AC power.

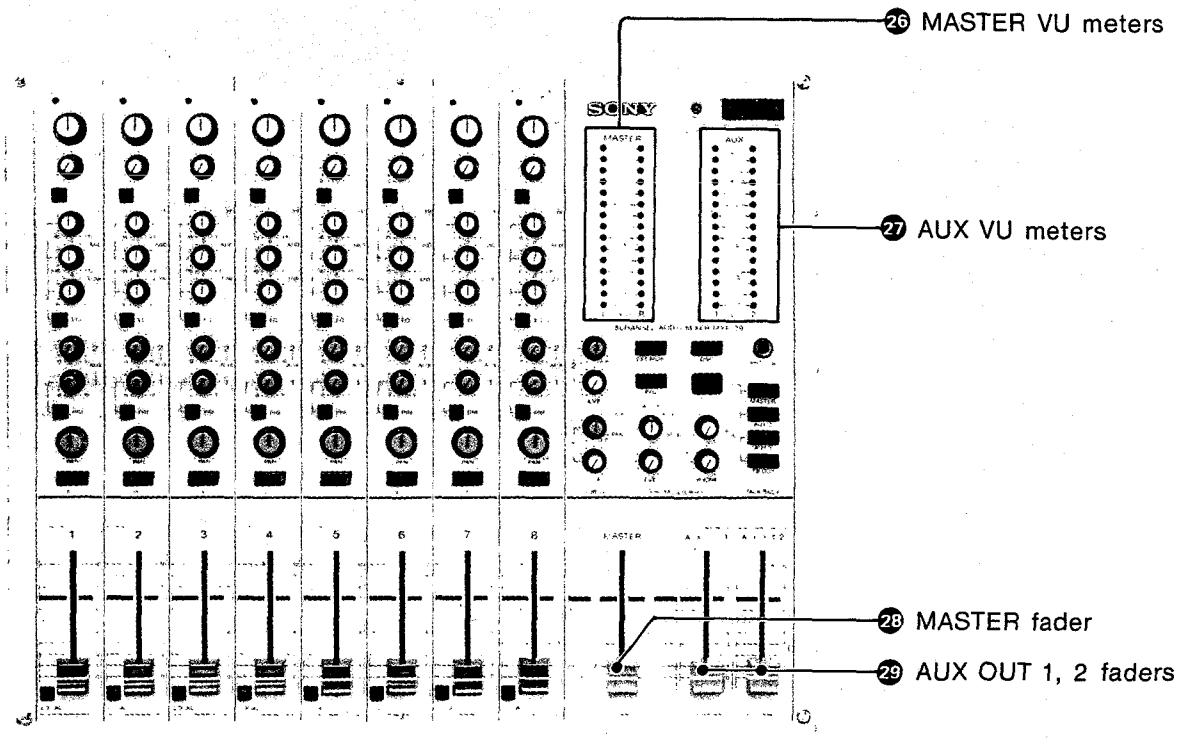
WARNING FOR THE CUSTOMERS IN THE UNITED KINGDOM
THIS APPARATUS MUST BE EARTHED to your 3-pin plug in accordance with following instruction.

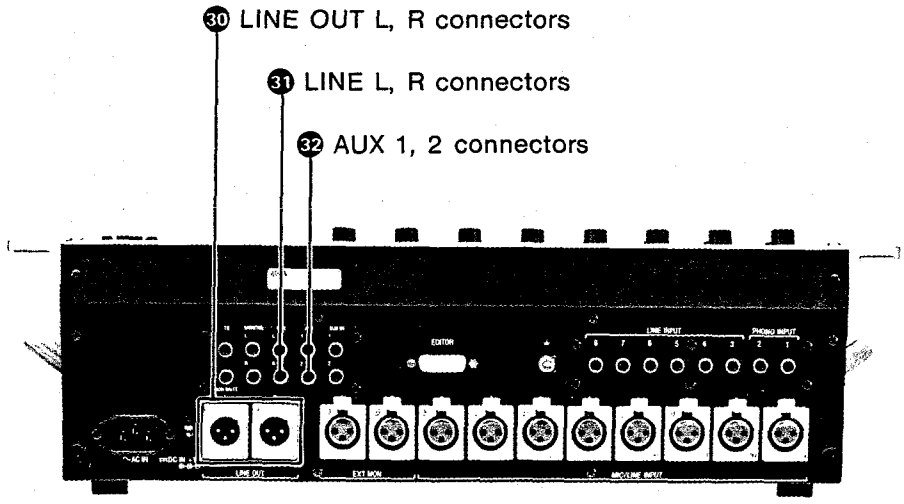
IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth (safety earth)
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug, proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

1-3-2. Output Section





㉖ MASTER VU meters
Indicate the L and R channel line output levels respectively. When the EXT MON button ㉝ is depressed, the level of signal connected to the EXT MON connectors ㊾ will be indicated.

㉗ AUX VU meters
Indicate the auxiliary output levels.

㉘ MASTER fader
Adjusts the overall signal level output from the LINE OUT connectors ㉚ and LINE connectors ㉛ . The reference level is indicated by a thick line "7". The gain margin at the maximum setting is 10 dB.

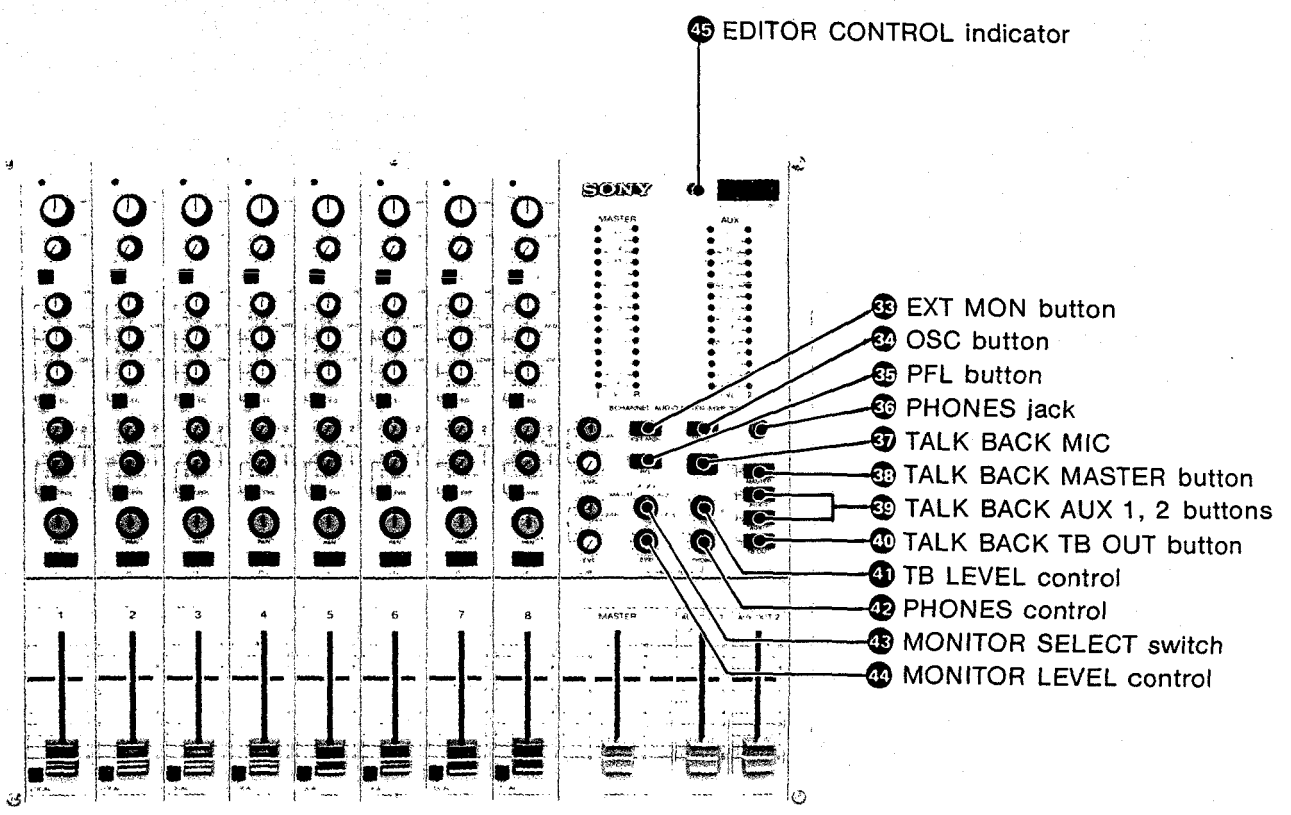
㉙ AUX OUT (auxiliary output) 1, 2 faders
Adjusts the output levels of the AUX 1 and AUX 2 connectors ㉜ respectively. The reference level is indicated by a thick line "7". The gain margin at the maximum setting is 10 dB.

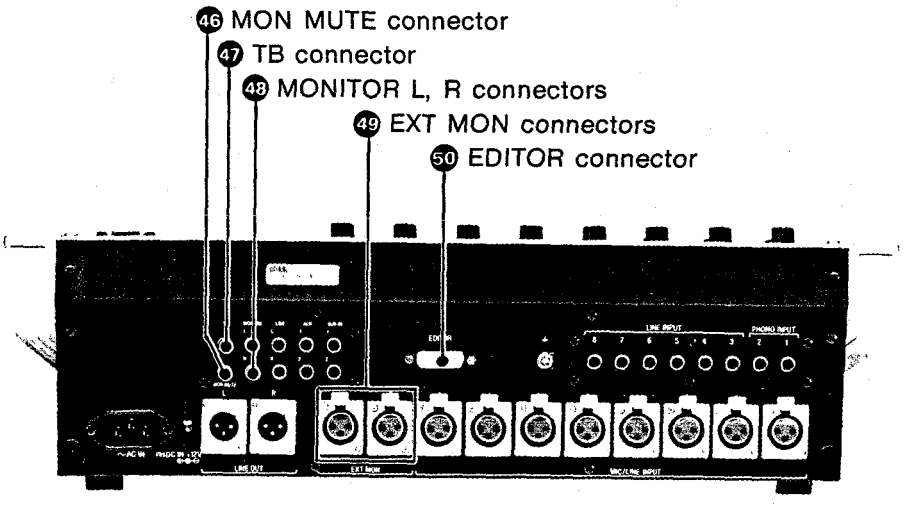
㉚ LINE OUT L, R connectors (XLR-3-32 type)
Feed out the mixed line output signals (balanced). The signal level is adjusted by the MASTER fader. (Pin assignment: 1; GND, 2; hot, 3; cold)

㉛ LINE L, R connectors (phono jacks)
Feed out the same signals (unbalanced, however) as the LINE OUT L, R connectors.

㉜ AUX (auxiliary output) 1, 2 connectors (phono jacks)
Each supplies the mixed monaural output signals independently of the line outputs, LINE OUT connectors, and LINE connectors. Connect to an echo machine or a power amplifier to drive a fold-back speaker.

1-3-3. Monitor and Editor-control Section





㉝ EXT MON button
Depress to monitor the signals from the EXT MON connectors ㊾ through the PHONES jack ㊱ or MONITOR connectors ㊽ . When the button is depressed, MASTER VU meters indicate the signal level input from the EXT MON connectors. This button takes prior to the MONITOR SELECT switch ㊸ .

㉞ OSC (oscillator) button
Depress to feed a 1 kHz sine-wave to the LINE OUT connectors and LINE connectors. The signal level can be adjusted with the MASTER fader.

㉟ PFL (speaker pre-fader listening) button
When this button is depressed, the original input signal corresponding the depressed PFL button of each channel will be output from the MONITOR connectors ㊽ as well as the PHONES jack ㊱ . When the output signal is monitored with a speaker, the PFL signal can also be monitored with the speaker.

㊱ PHONES jack (stereo phone jack)
Accepts headphones having an impedance of 8 ohms or more.

㊲ TALK BACK MIC (microphone)
To send information from the mixer to the output connectors selected with the TALK BACK buttons ㊳ , ㊴ and ㊵ .

㊳ TALK BACK MASTER button
While this button is depressed, the output from the built-in microphone is fed to the LINE OUT and LINE connectors. The output to the MONITOR L, R connectors ㊽ are automatically muted.

㊴ TALK BACK AUX 1, 2 buttons
While one of these buttons is depressed, the output from the built-in microphone is fed to the AUX 1 or 2 connector. The output to the MONITOR L, R connectors ㊽ are automatically muted.

㊵ TALK BACK TB OUT button
While this button is depressed, the output from the built-in microphone is fed to the TB connector ㊼ . The output to the MONITOR L, R connectors ㊽ are automatically muted.

㊶ TB LEVEL control
Adjusts the built-in microphone sound level.

㊷ PHONES control
Adjusts the level of the headphones connected to the PHONES jack.

㊸ MONITOR SELECT switch
Selects the output signal to be monitored.
MASTER: line outputs
AUX 1: auxiliary 1 output
AUX 2: auxiliary 2 output
When the PFL button of each channel or the EXT MON button is depressed, the pre-fader signal or the signal connected to the EXT MON connectors ㊾ is selected independent of the setting of this selector.

㊹ MONITOR LEVEL control
Adjusts th output level of the MONITOR connectors. The gain margin at the maximum setting is 10 dB.

㊺ EDITOR CONTROL indicator
Lights when the unit is controlled by the external equipment such as editing control unit BVE-900.

㊻ MON MUTE connector (phono jack)
To externally mute the monitor outputs from the MONITOR connectors by short-circuiting this jack.

㊼ TB connector (phono jack)
While the TALK BACK TB OUT button is depressed, the signal from the built-in microphone is fed to this connector.

㊽ MONITOR L, R connectors (phono jacks)
To connect a power amplifier to drive the monitor speakers.

㊾ EXT MON connectors (XLR-3-31 connectors)
To monitor external signals. For example, the monitoring of signals which have already been broadcasted or recorded from the mixer.
(Pin assignment: 1; GND, 2; hot, 3; cold)

50 EDITOR connector (D-sub 15-pin)
Connect the external equipment to control the unit. The pin assignment is shown below.

Pin No.	Control voltage	Function
1	0 — 5V (against GND1)	Control the VCA (Voltage Controlled Amplifier) of each channel by −20 dB/V. Channel 1
2		Channel 2
3		Channel 3
4		Channel 4
5		Channel 5
6		Channel 6
7		Channel 7
8		Channel 8
9	GND 1	
10	0V/OPEN (against GND2)	When 0V, signal connected to the EXT MON L connector is fed to monitor output
11		When 0V, signal connected to the EXT MON R connector is fed to monitor output
12		When 0V, EDITOR CONTROL indicator lights.
13		When 0V, signal fed from the MONITOR connector is muted.
14	N.C.	
15	GND 2	

1-4. CONTROL WITH EXTERNAL EQUIPMENT

The MXP-29 can be controlled with the external equipment such as Sony BVE-900 editing control unit.
When the BVE-900 is used, the BKE-916 parallel mixer interface board should be inserted into the BVE-900, and the BVE-900 is connected to the unit with a cable supplied with the BKE-916. Then the audio signal can be edited in synchronization with the video signal.
Using the BVE-900, the following three items can be controlled.

1. The output signal level of each channel
When the LOCAL switch is not depressed, the signal level is adjusted by VCA before the channel fader. Set the channel fader to the position "7", and adjust the level with the BVE-900.

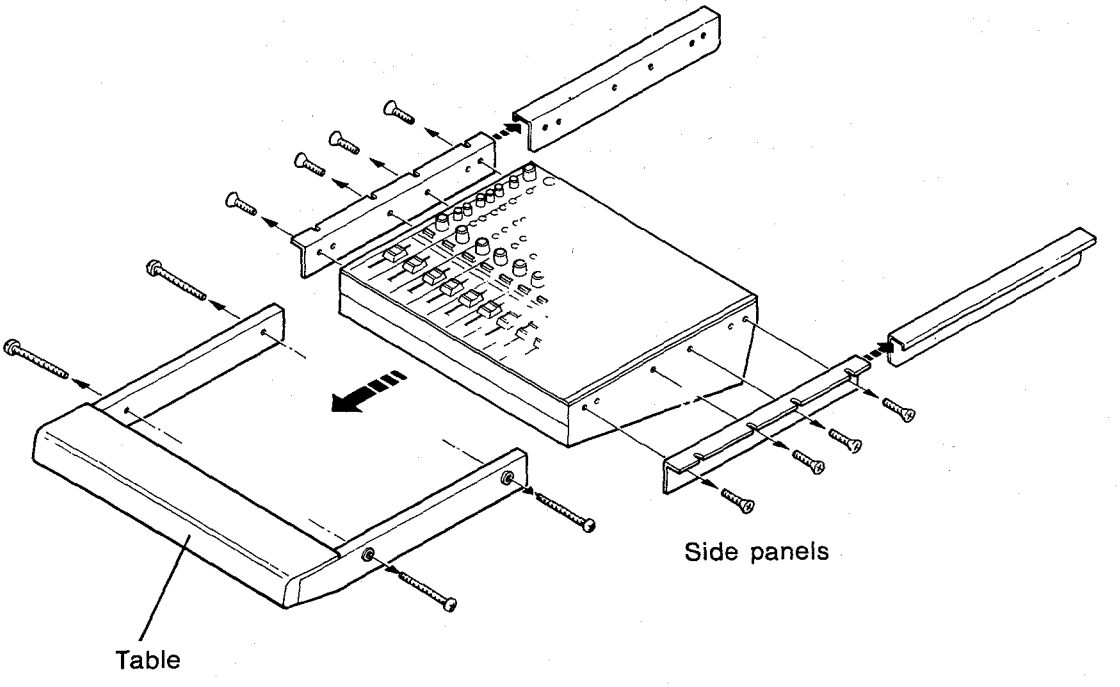
2. The signal insertion to the monitor section
When the EXT MON button is not depressed, the signal connected to the EXT MON connectors can be inserted into the left and right monitor line independently.

3. Muting of monitor signal
The output signal to the MONITOR connectors can be muted.

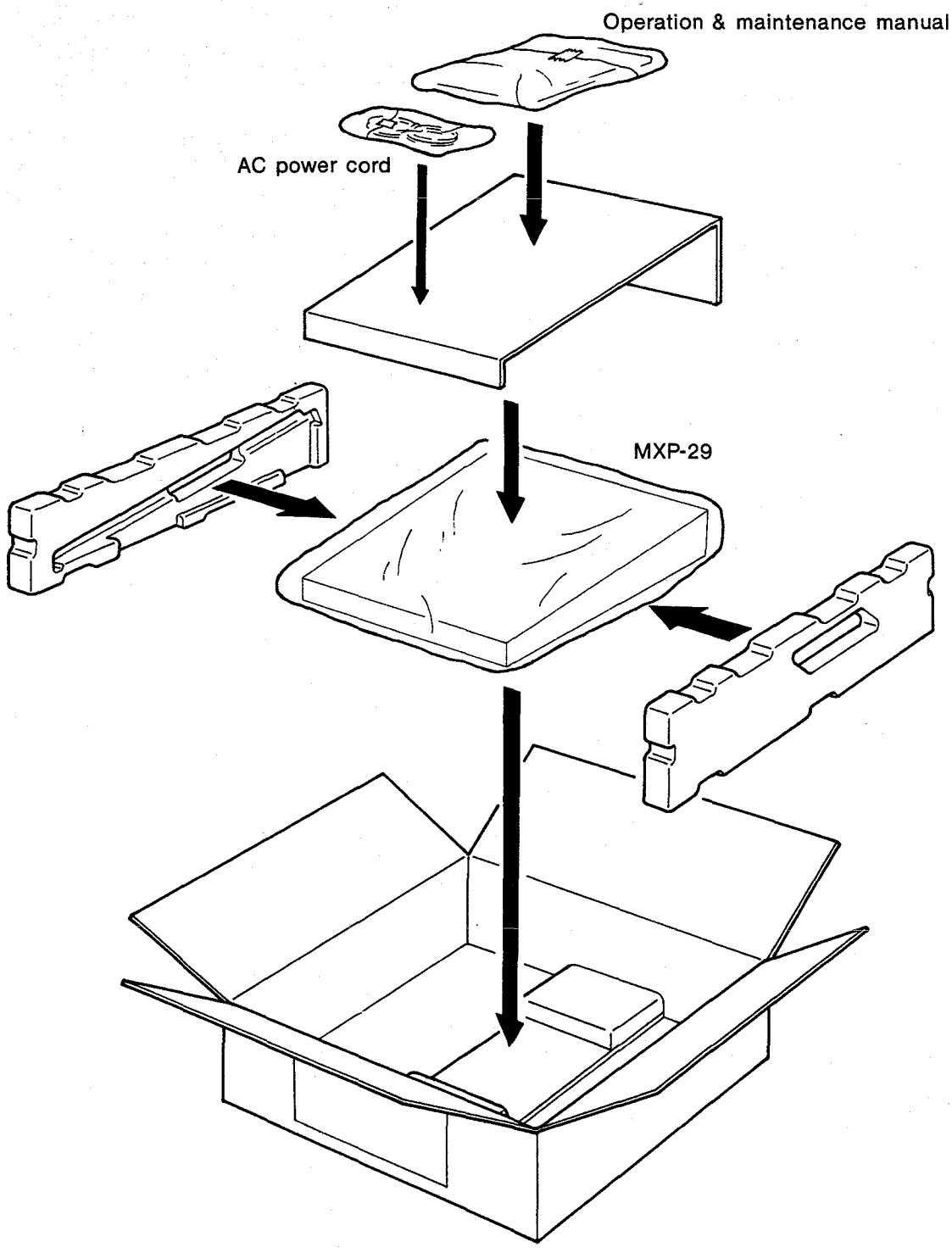
- For details on the operation using the BVE-900, please refer to the manual provided with the BVE-900.

1-5. RACK MOUNTING

When the unit is installed into the control console or standard 19-inch rack, remove the table and side panels from the unit as illustrated below.

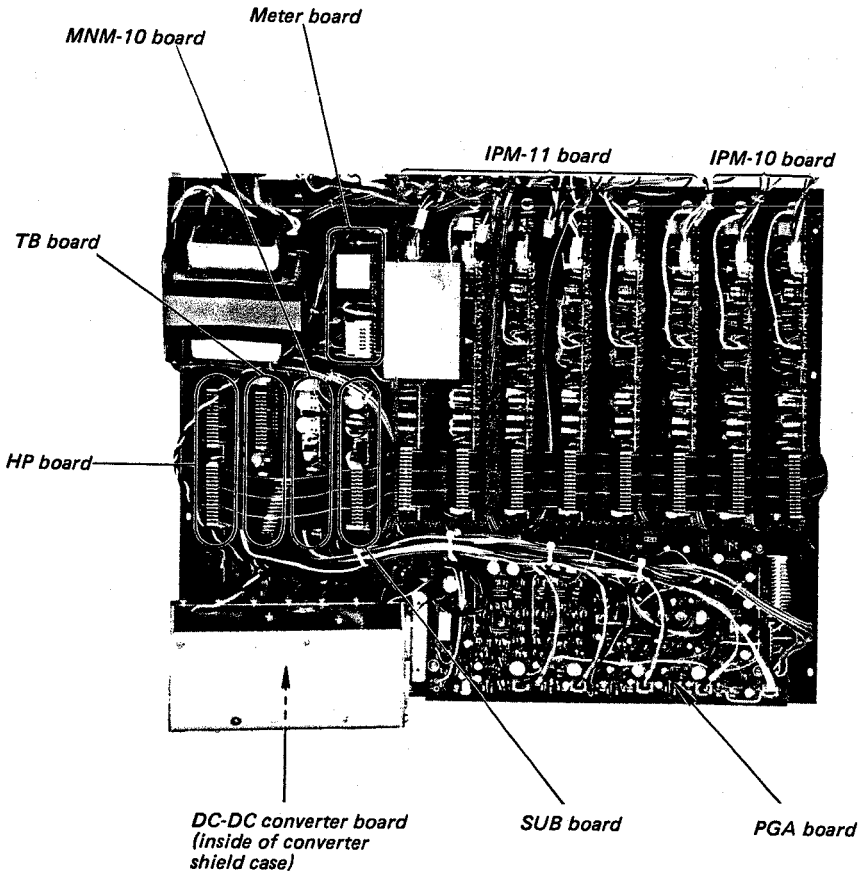


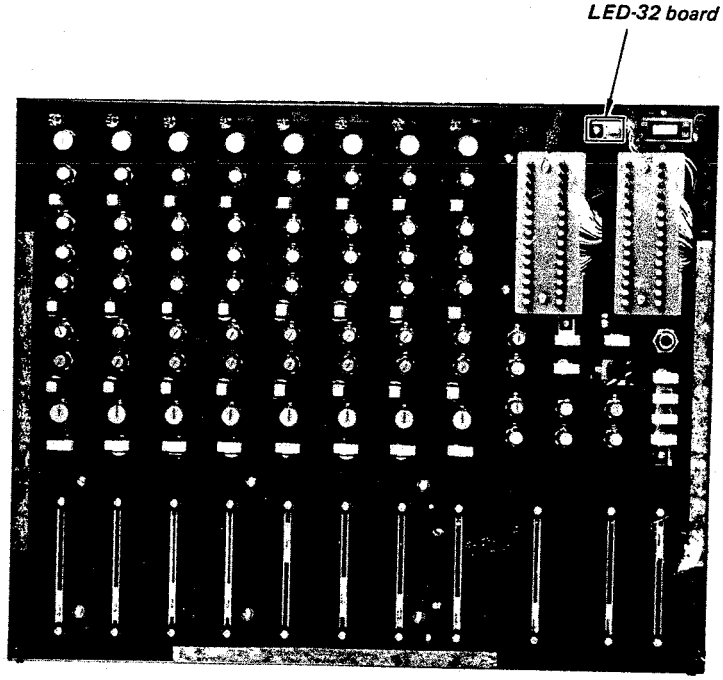
1-6. REPACKING



第２章　サービスインフォメーション
SECTION 2　SERVICE INFORMATION

2-1.　基板配置図
2-1.　CIRCUIT BOARDS LOCATION





第3章
調　整

3-1. 測定器

・Oscillator (Balanced Type)
・Attenuator (Balanced Type)
・Level Meter (Balanced Type)
・Distortion Meter (Balanced Type)
・Volt Meter

3-2. スイッチ，つまみの位置合わせ

・特記がある場合以外は以下のようにセットする。

(1)入力 CH1～CH8

INPUT SELECTOR	MIC
TRM	MAX
EQ	OFF
AUX 1	MAX
AUX 2	MAX
PRE	ON
PAN	CENTER
CH FADER	MAX

ただしAUX 1，AUX 2，CH FADERは調整に必要なチャンネル以外はMINとする。

(2)SUB IN セクション

SUB IN 1 LEVEL	MIN
SUB IN 1 PAN	CENTER
SUB IN 2 LEVEL	MIN
SUB IN 2 PAN	CENTER

(3)MASTER セクション

MASTER FADER	MAX
AUX 1 FADER	MAX
AUX 2 FADER	MAX

(4)MONITOR およびその他のセクション

MONITOR SELECTOR	MASTER
MONITOR LEVEL	MAX
PHONE	MIN
TB LEVEL	MIN
EXT MON	ON
PFL	OFF
OSC	OFF

3-3. 調整

3-3-1. IPM-10 BOARD VCA THD 調整

・MIC/LINE INPUT : 1kHz -40dBs
・CH FADER SETTING : +24dBs at LINE OUT L (600Ω負荷)

《設定値》
・LINE OUT L : THD MINIMUM
◎RV105/IPM-10

3-3-2. IPM-11 BOARD VCA THD 調整

・MIC/LINE INPUT : 1kHz -40dBs
・CH FADER SETTING : +24dBs at LINE OUT L (600Ω負荷)

《設定値》
・LINE OUT L : THD MINIMUM
◎RV205/IPM-11

3-3-3. LINE OUT MAXIMUM GAIN 調整

・MIC/LINE INPUT : 1kHz -70dBs

《設定値》
・LINE OUT L : +14dBs (600Ω負荷)
◎RV301/PGA

《設定値》
・LINE OUT R : +14dBs (600Ω負荷)
◎RV303/PGA

3-3-4. AUX OUT MAXIMUM GAIN 調整

・MIC/LINE INPUT : 1kHz -70dBs

《設定値》
・AUX 1 (OUT) : +15dBs (10kΩ負荷)
◎RV305/PGA

《設定値》
・AUX 2 (OUT) : +15dBs (10kΩ負荷)
◎RV307/PGA

3-3-5. OSC LEVEL 調整

・OSC switch : ON

《設定値》
・LINE OUT L : +14dBs (600Ω負荷)
◎RV703/TB & OSC

3-3-6. LEVEL METER 調整

・EXT MON (SW) : OFF
・LINE OUT L : +3.6dBs (600Ω負荷)
・LINE OUT R : +3.6dBs (600Ω負荷)
・AUX 1 (OUT) : -5.4dBs (10kΩ負荷)
・AUX 2 (OUT) : -5.4dBs (10kΩ負荷)

《設定値》
・VU METER (LINE L) : 0VU
◎RV302/PGA

《設定値》
・VU METER (LINE R) : 0VU
◎RV304/PGA

《設定値》
・VU METER (AUX 1) : 0VU
◎RV306/PGA

《設定値》
・VU METER (AUX 2) : 0VU
◎RV308/PGA

3-3-7. DC-DC CONVERTER +5V 調整

《設定値》
・テストポイント (+5Vの出力ライン) : +5V
◎RV18/DC-DC

SECTION 3
ADJUSTMENTS

3-1. Equipments Required

. Oscillator (Balanced Type)
. Attenuator (Balanced Type)
. Level Meter (Balanced Type)
. Distortion Meter (Balanced Type)
. Volt Meter

3-2. Contorl Settings

. Set the controls as follows unless otherwise noted.

(1) **Input CH1 to CH8**

INPUT SELECTOR	MIC
TRM	MAX
EQ	OFF
AUX 1	MAX
AUX 2	MAX
PRE	ON
PAN	CENTER
CH FADER	MAX

The AUX 1, AUX 2 and CH FADER controls must be set to minimum except for the channel that is required for adjustment.

(2) **SUB IN Section**

SUB IN 1 LEVEL	MIN
SUB IN 1 PAN	CENTER
SUB IN 2 LEVEL	MIN
SUB IN 2 PAN	CENTER

(3) **MASTER Section**

MASTER FADER	MAX
AUX 1 FADER	MAX
AUX 2 FADER	MAX

(4) **MONITOR and Other Section**

MONITOR SELECTOR	MASTER
MONITOR LEVEL	MAX
PHONE	MIN
TB LEVEL	MIN
EXT MON	ON
PFL	OFF
OSC	OFF

3-3. Adjustments

3-3-1. IPM-10 BOARD VCA THD Adjustment

. MIC/LINE INPUT: 1kHz -40dBs
. CH FADER SETTING: +24dBs at LINE OUT L (600Ω load)

<Specified Value>
. LINE OUT L: THD MINIMUM
⊘ RV105/IPM-10

3-3-2. IPM-11 BOARD VCA THD Adjustment

. MIC/LINE INPUT: 1kHz -40dBs
. CH FADER SETTING: +24dBs at LINE OUT L (600Ω load)

<Specified Value>
.LINE OUT L: THD MINIMUM
⊘RV205/IPM-11

3-3-3. LINE OUT MAXIMUM GAIN Adjustment

. MIC/LINE INPUT: 1kHz -70dBs

<Specified Value>
. LINE OUT L: +14dBs (600Ω load)
⊘ RV301/PGA

<Specified Value>
. LINE OUT R: +14dBs (600Ω load)
⊘ RV303/PGA

3-3-4. AUX OUT MAXIMUM GAIN Adjustment

. MIC/LINE INPUT: 1kHz -70dBs

<Specified Value>
. AUX 1 (OUT): +15dBs (10kΩ load)
⊘ RV305/PGA

<Specified Value>
. AUX 2 (OUT): +15dBs (10kΩ load)
⊘ RV307/PGA

3-3-5. OSC LEVEL Adjustment

. OSC switch : ON

<Specified Value>
. LINE OUT L: +14dBs
⊘ RV703/TB & OSC (600Ω load)

3-3-6. LEVEL METER Adjustment

. EXT MON (SW): OFF

. LINE OUT L: +3.6dBs (600Ω load)

. LINE OUT R: +3.6dBs (600Ω load)

. AUX 1 (OUT): -5.4dBs (10kΩ load)

. AUX 2 (OUT): -5.4dBs (10kΩ load)

<Specified Value>
. VU METER (LINE L): 0VU
⊘ RV302/PGA

<Specified Value>
. VU METER (LINE R): 0VU
⊘ RV304/PGA

<Specified Value>
. VU METER (AUX 1): 0VU
⊘ RV306/PGA

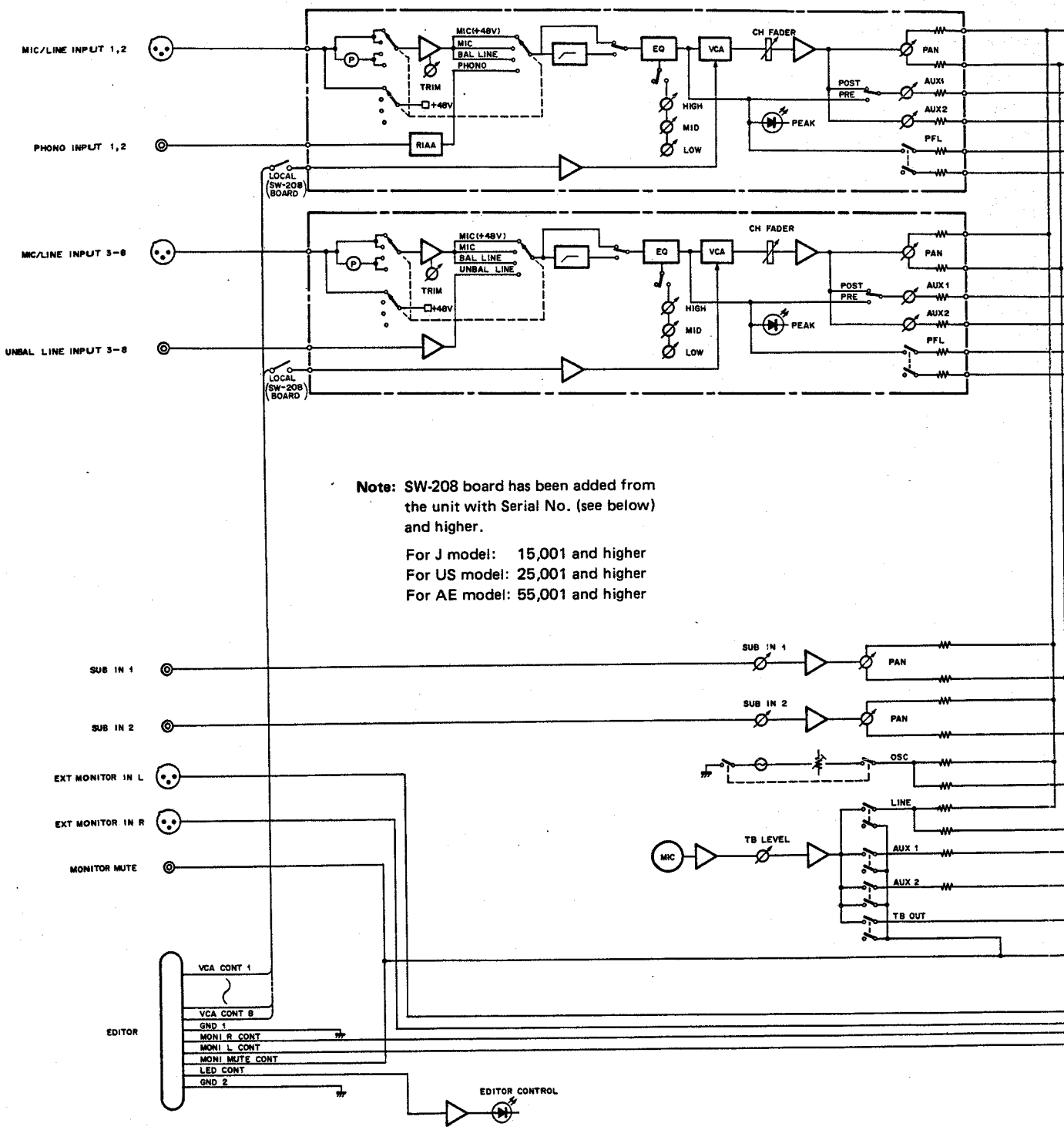
<Specified Value>
. VU METER (AUX 2): 0VU
⊘ RV308/PGA

3-3-7. DC-DC CONVERTER +5V Adjustment

<Specified Value>
. Test-Point (Output line of +5V): +5V
⊘ RV18/DC-DC

SECTION A
BLOCK, LEVEL, SCHEMATIC AND CIRCUIT BOARD DIAGRAMS

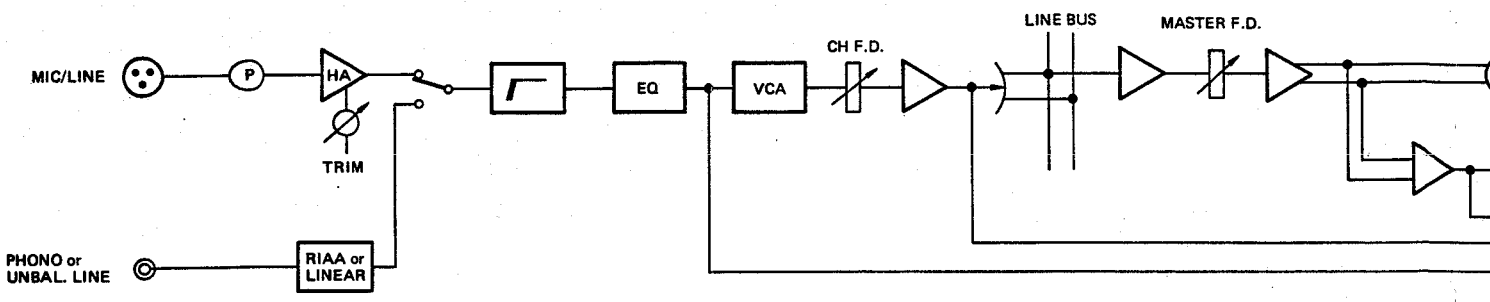
BLOCK DIAGRAM

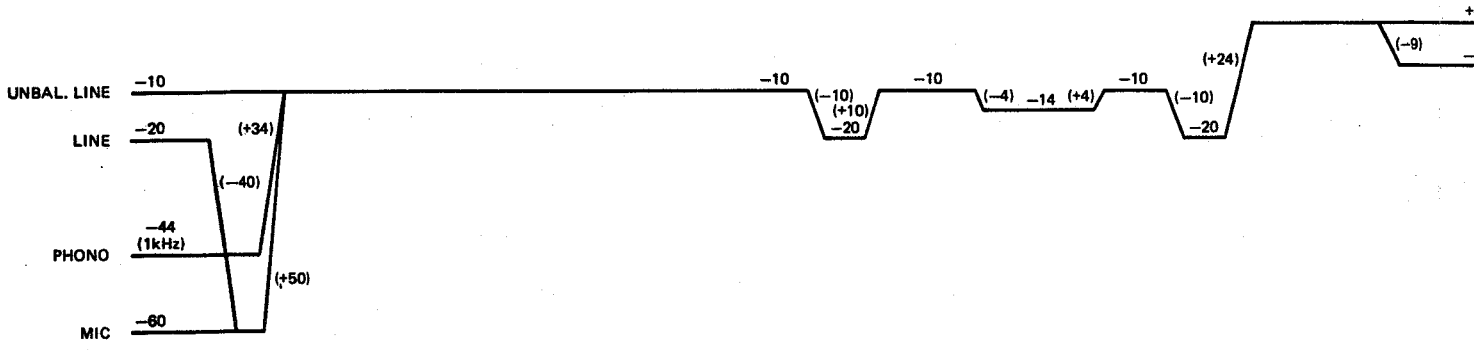


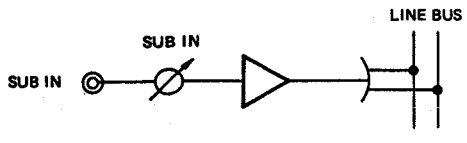
Note: SW-208 board has been added from the unit with Serial No. (see below) and higher.

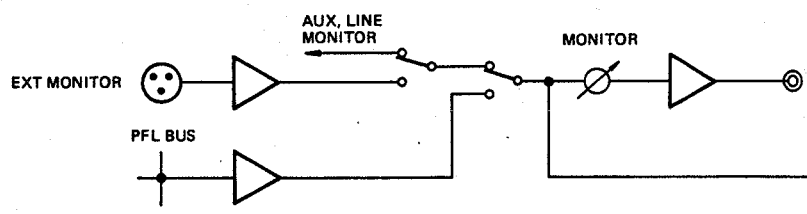
For J model: 15,001 and higher
For US model: 25,001 and higher
For AE model: 55,001 and higher

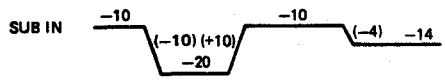
LEVEL DIAGRAM

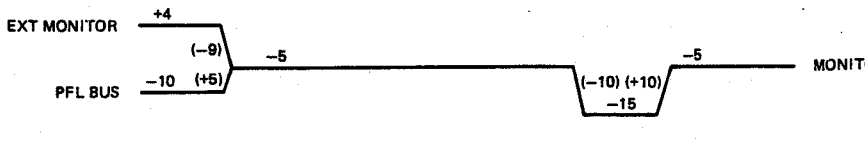




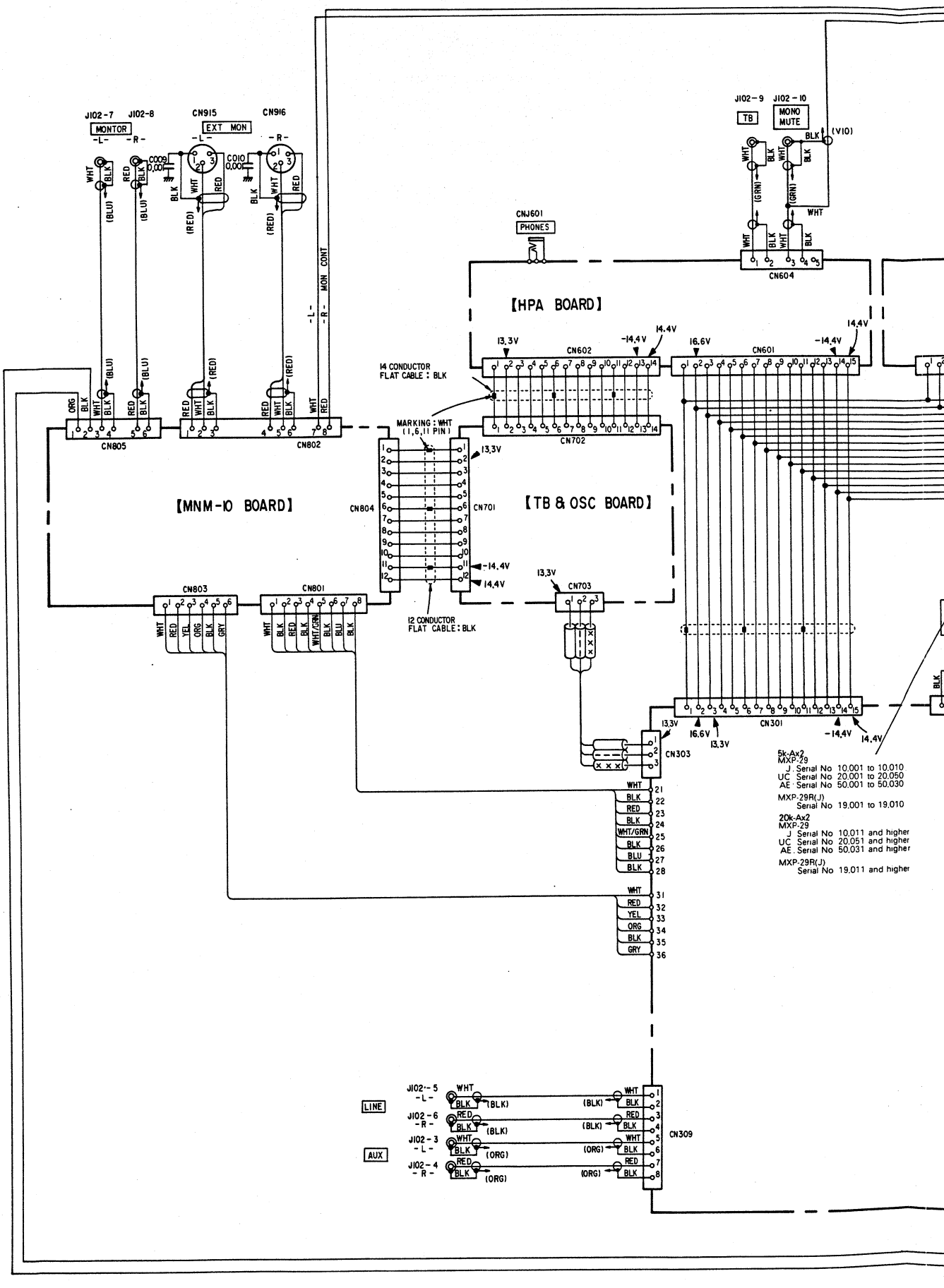


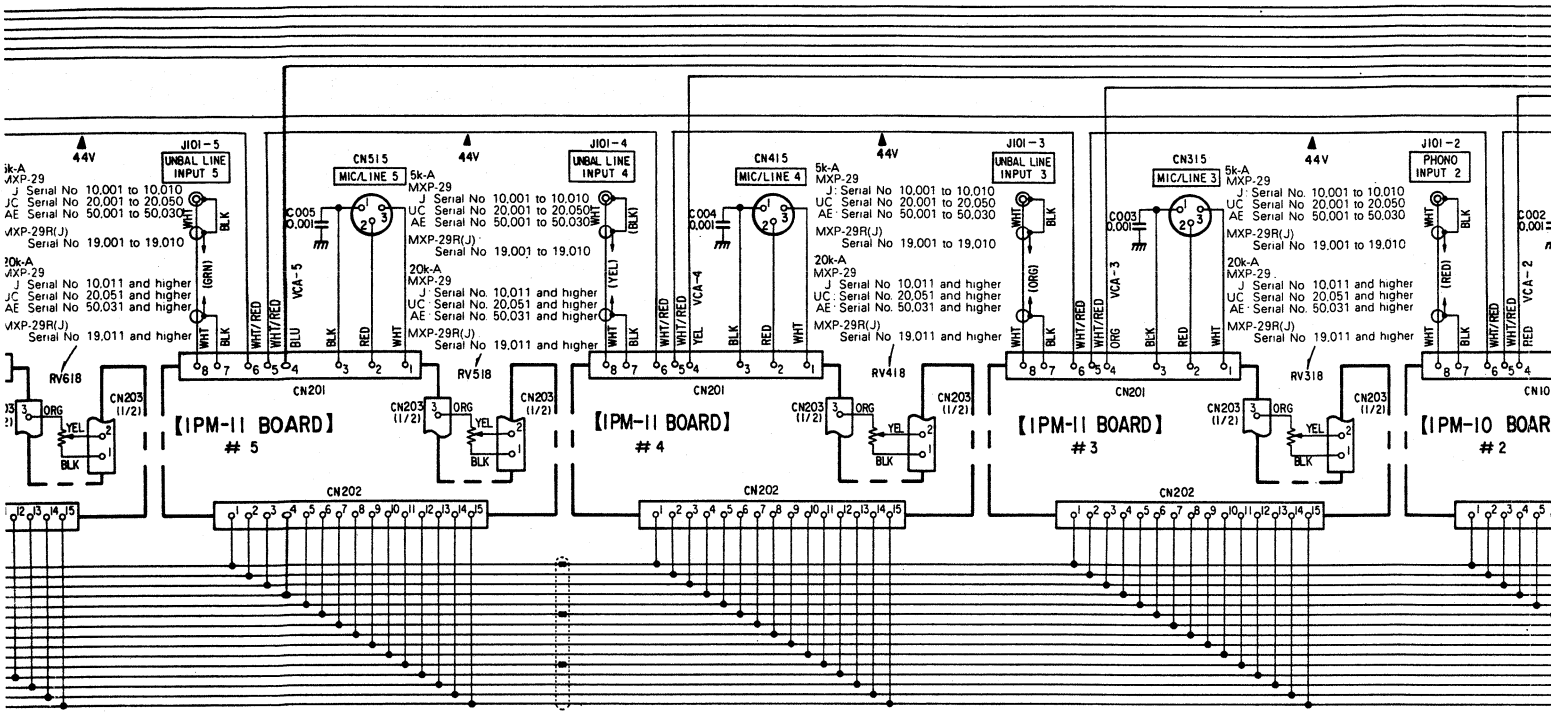


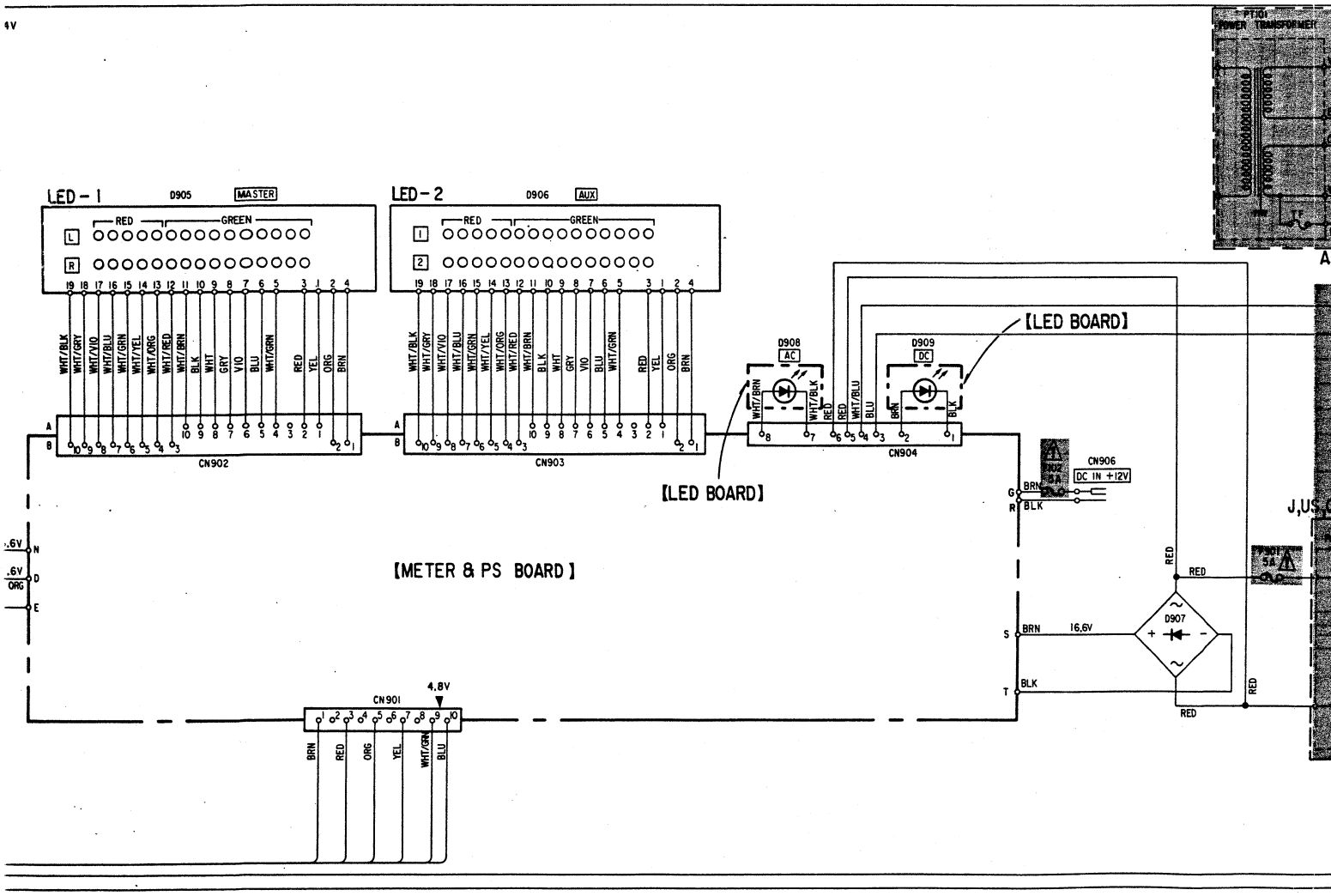




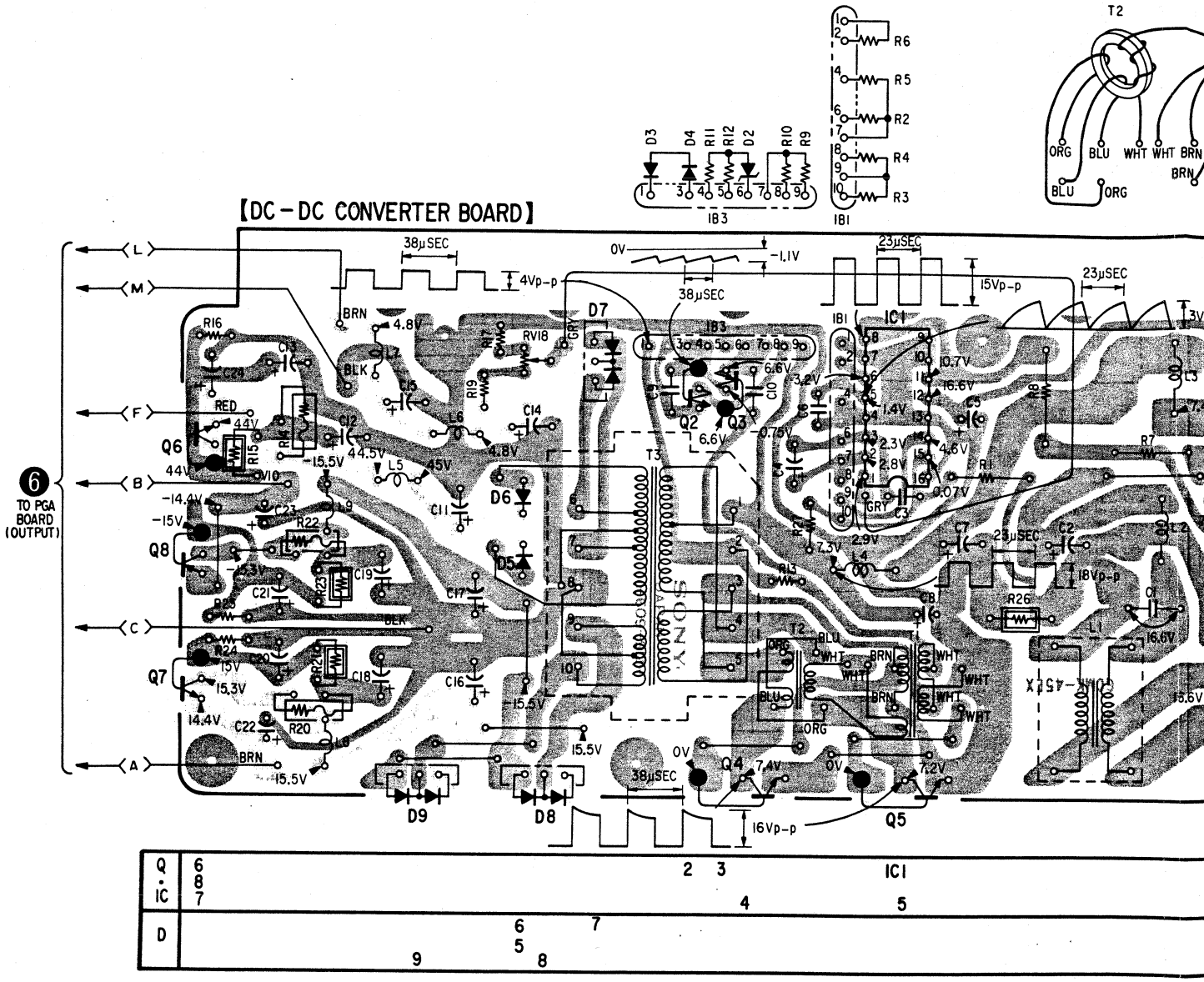
FRAME WIRING




44V
J101-5
UNBAL LINE INPUT 5
CN515
MIC/LINE 5
5k-A
MXP-29
J Serial No 10.001 to 10.010
UC Serial No 20.001 to 20.050
AE Serial No 50.001 to 50.030
MXP-29R(J)
Serial No 19.001 to 19.010
20k-A
MXP-29
J Serial No 10.011 and higher
UC Serial No 20.051 and higher
AE Serial No 50.031 and higher
MXP-29R(J)
Serial No 19.011 and higher
C005 0.001
VCA-5
RV618
RV518
CN201
CN202
CN203 (1/2)
【IPM-11 BOARD】
5
J101-4
UNBAL LINE INPUT 4
CN415
MIC/LINE 4
C004 0.001
VCA-4
RV418
4
J101-3
UNBAL LINE INPUT 3
CN315
MIC/LINE 3
C003 0.001
VCA-3
RV318
3
J101-2
PHONO INPUT 2
C002 0.001
VCA-2
【IPM-10 BOAR
2


LED-1
D905
MASTER
LED-2
D906
AUX
RED
GREEN
CN902
CN903
D908
AC
D909
DC
【LED BOARD】
CN904
CN906
DC IN +12V
【METER & PS BOARD】
CN901
4.8V
D907
16.6V
PT101
POWER TRANSFORMER

MOUNTING DIAGRAM (1)
DC-DC CONVERTER BOARD

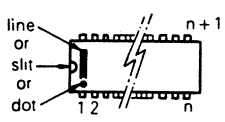


Note:

- ○—: parts extracted from the component side.
- ▒: B + pattern
- ■: B − pattern

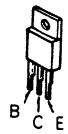
● Semiconductor Lead Layouts

MB3759

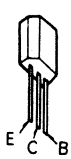


(Top view)

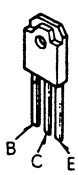
2SA1012
2SC2334



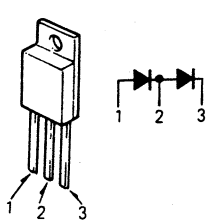
2SA1175
2SC2785



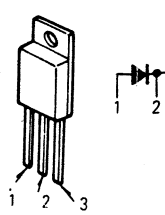
2SD1049

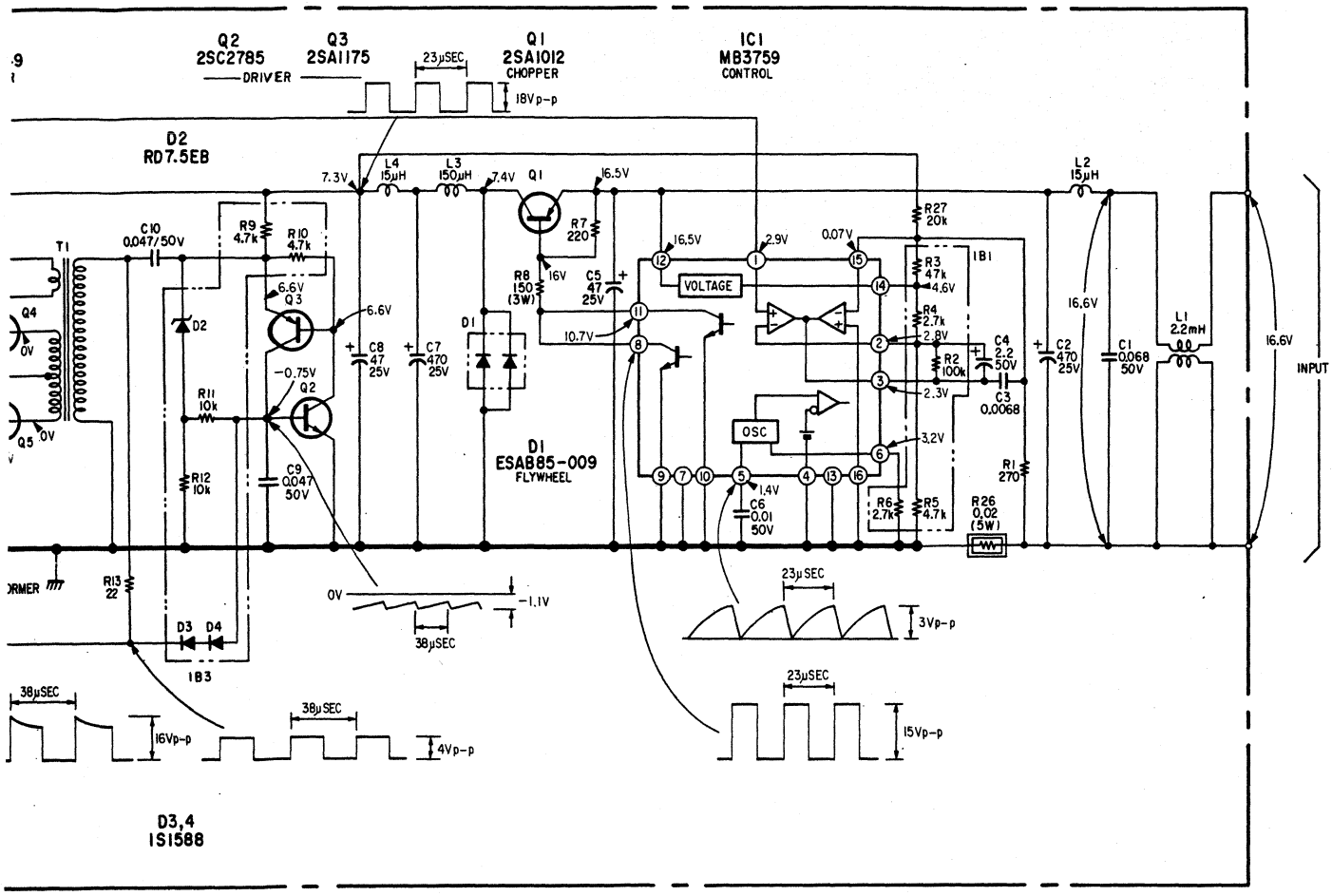


ESAC31-02D



ESAB85-009





Note:

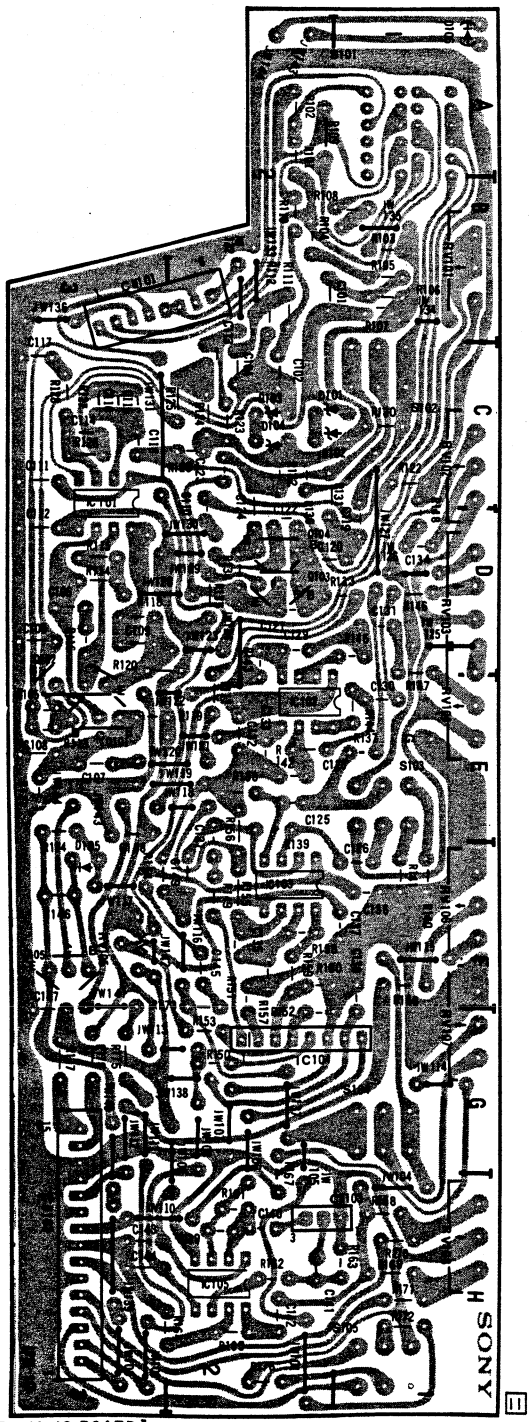
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : nonflammable resistor.
- : adjustment for repair.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Voltages are measured with a VOM (50kΩ/V).

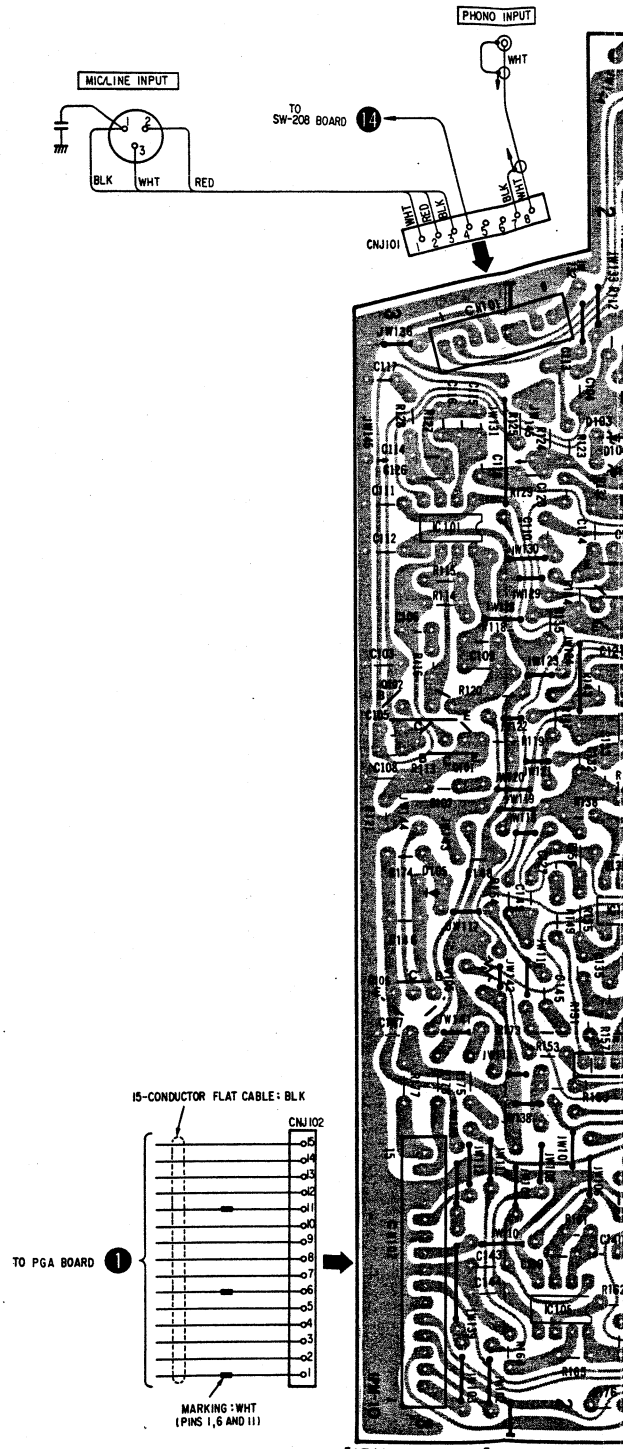
MOUNTING DIAGRAM (2)
IPM-10 BOARD



【IPM-10 BOARD】

MXP-29:
J:Serial No. 10,001 to 10,010
UC:Serial No. 20,001 to 20,150
AE:Serial No. 50,001 to 50,030

MXP-29R(J):
Serial No. 19,001 to 19,010

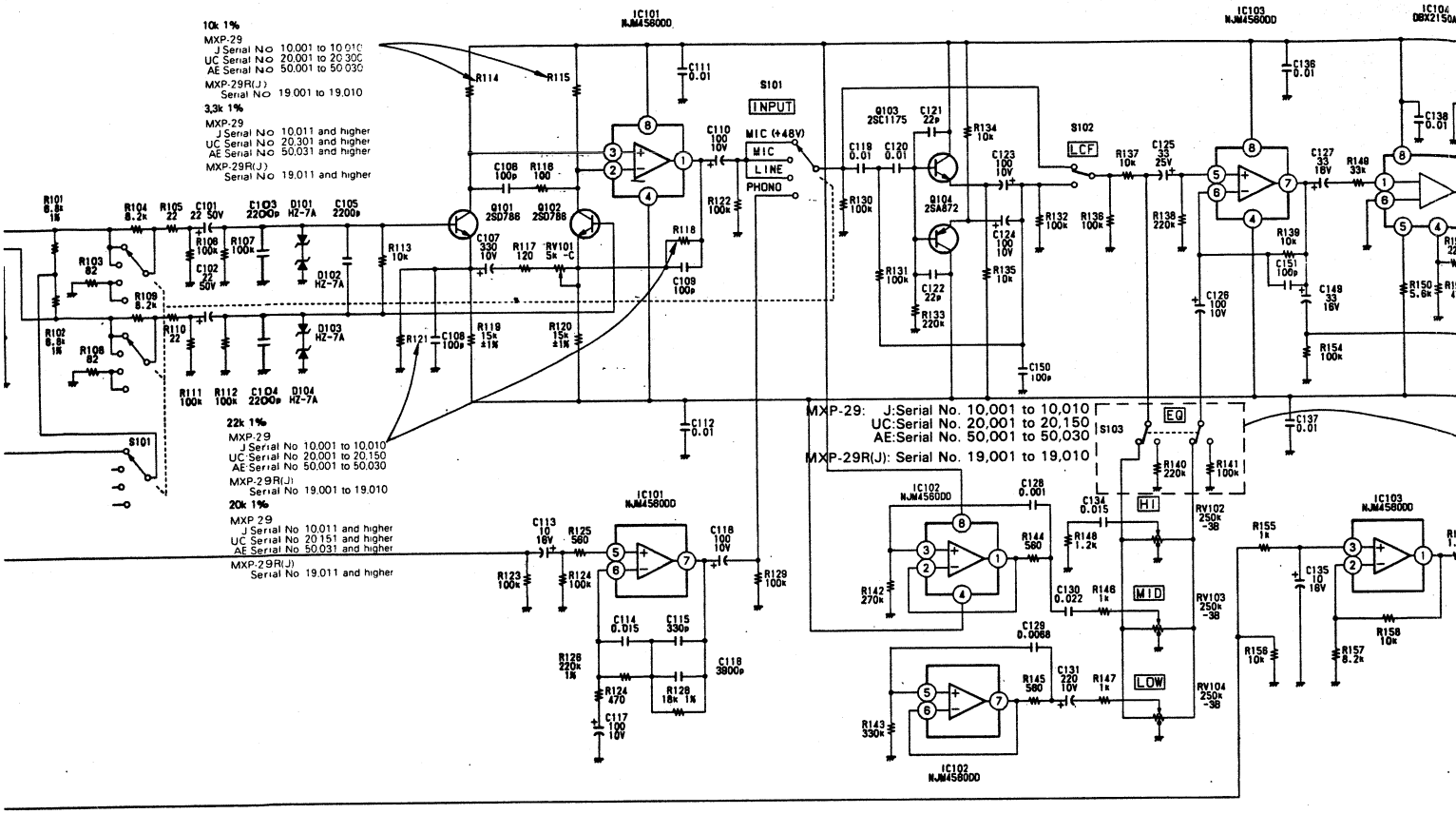


【IPM-10 BOARD】

MXP-29:
J:Serial No. 10,011 and higher
UC:Serial No. 20,151 and higher
AE:Serial No. 50,031 and higher

MXP-29R(J):
Serial No. 19,011 and higher

M (2)



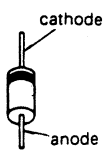
or Lead Layouts

2SA872-E
2SC1364
2SC1775A
2SC2014

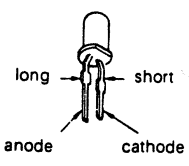




RD7.5EB1
1S1555



TLR124



sleeving over the end of the jacket.



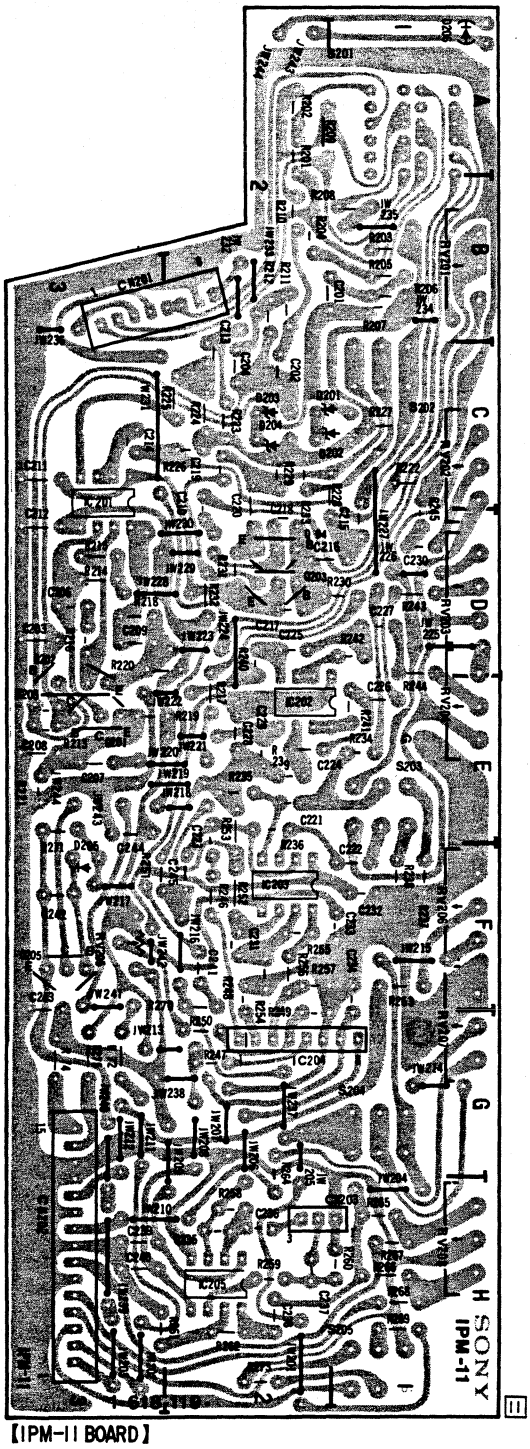
xtracted from the component side.

Note:

- All capacitors are in μF u
  50WV or less are not ind
  and tantalums.
- All resistors are in ohms,
  kΩ : 1000Ω, MΩ : 1000
- Switch

Ref. No.	
S101	INPUT
S102	LCF
S103	EQ
S104	PRE
S105	PFL

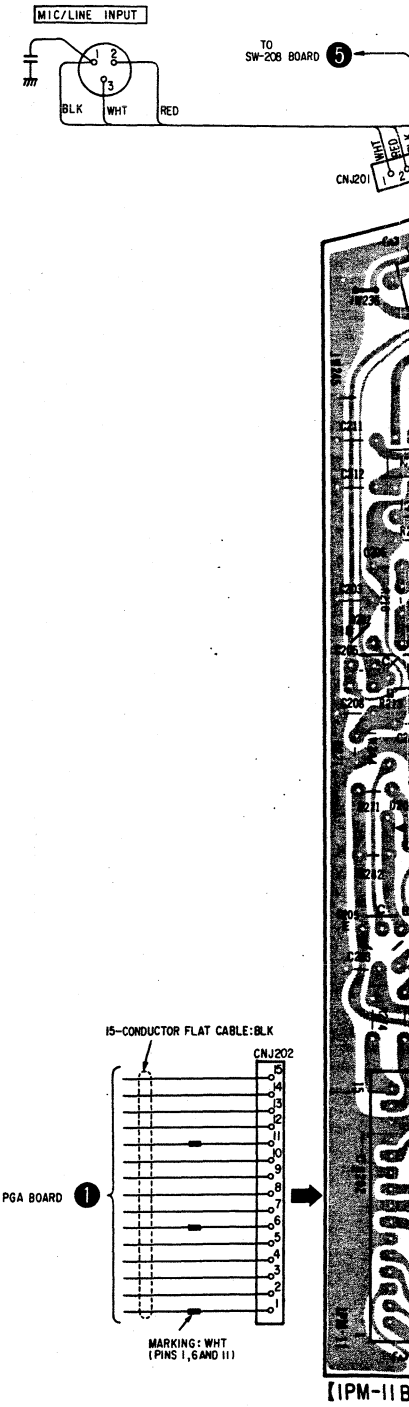
MOUNTING DIAGRAM (3)
IPM-11 BOARD



【IPM-11 BOARD】

MXP-29:
J:Serial No. 10,001 to 10,010
UC:Serial No. 20,001 to 20,150
AE:Serial No. 50,001 to 50,030

MXP-29R(J):
Serial No. 19,001 to 19,010

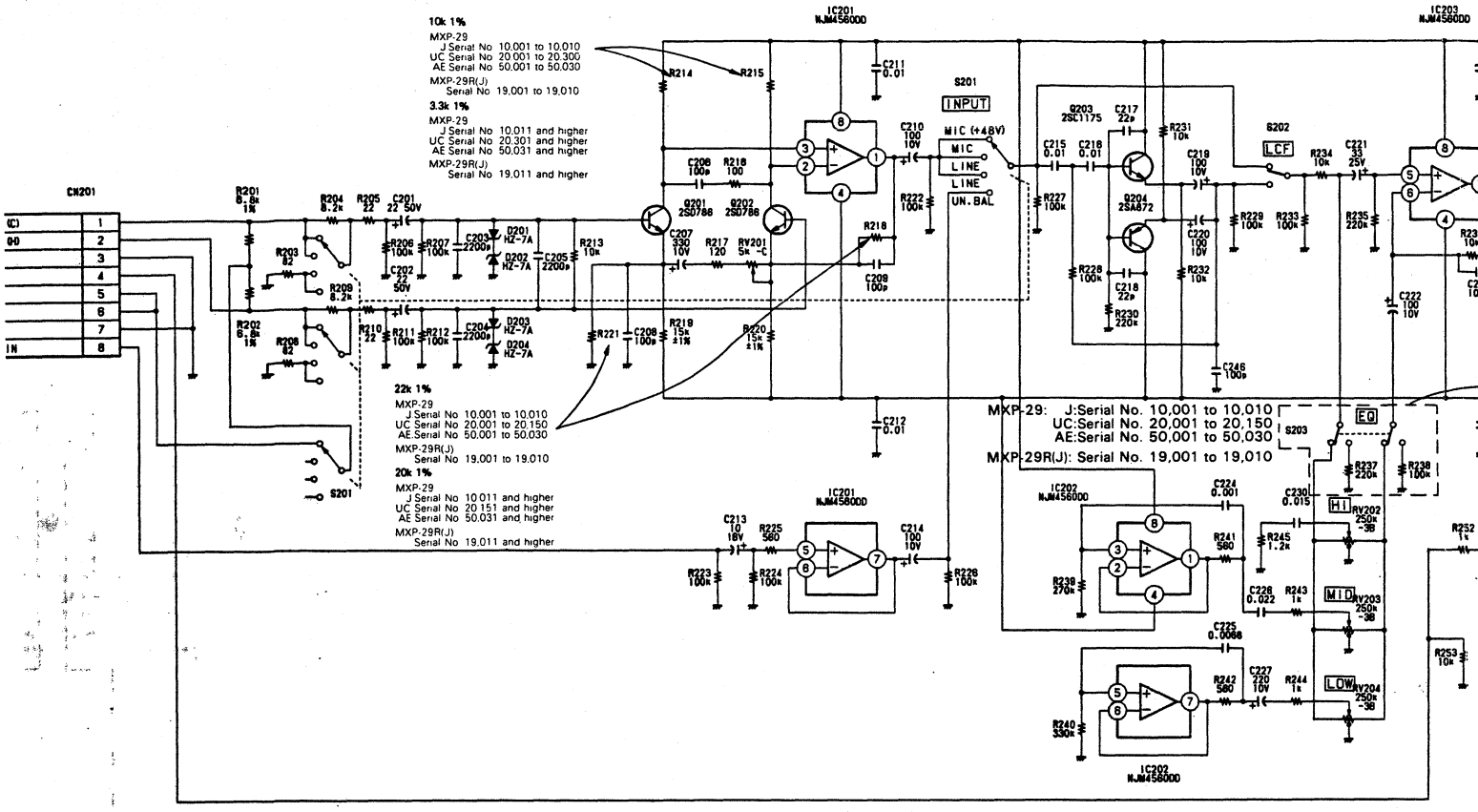


【IPM-11 B

MXP-29:
J:Serial No. 1
UC:Serial No. 2
AE:Serial No. 5

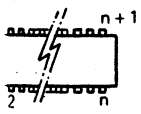
MXP-29R(J):
Serial No. 1

ATIC DIAGRAM (3)
BOARD



onductor Lead Layouts

4560D-D
4560D

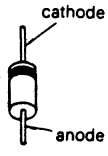


Top view)

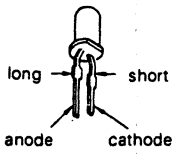
2SA872-E
2SC1364
2SC1775A
2SC2014



RD7.5EB1
1S1555

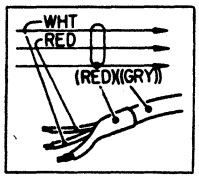


TLR124



Note:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.

Note:

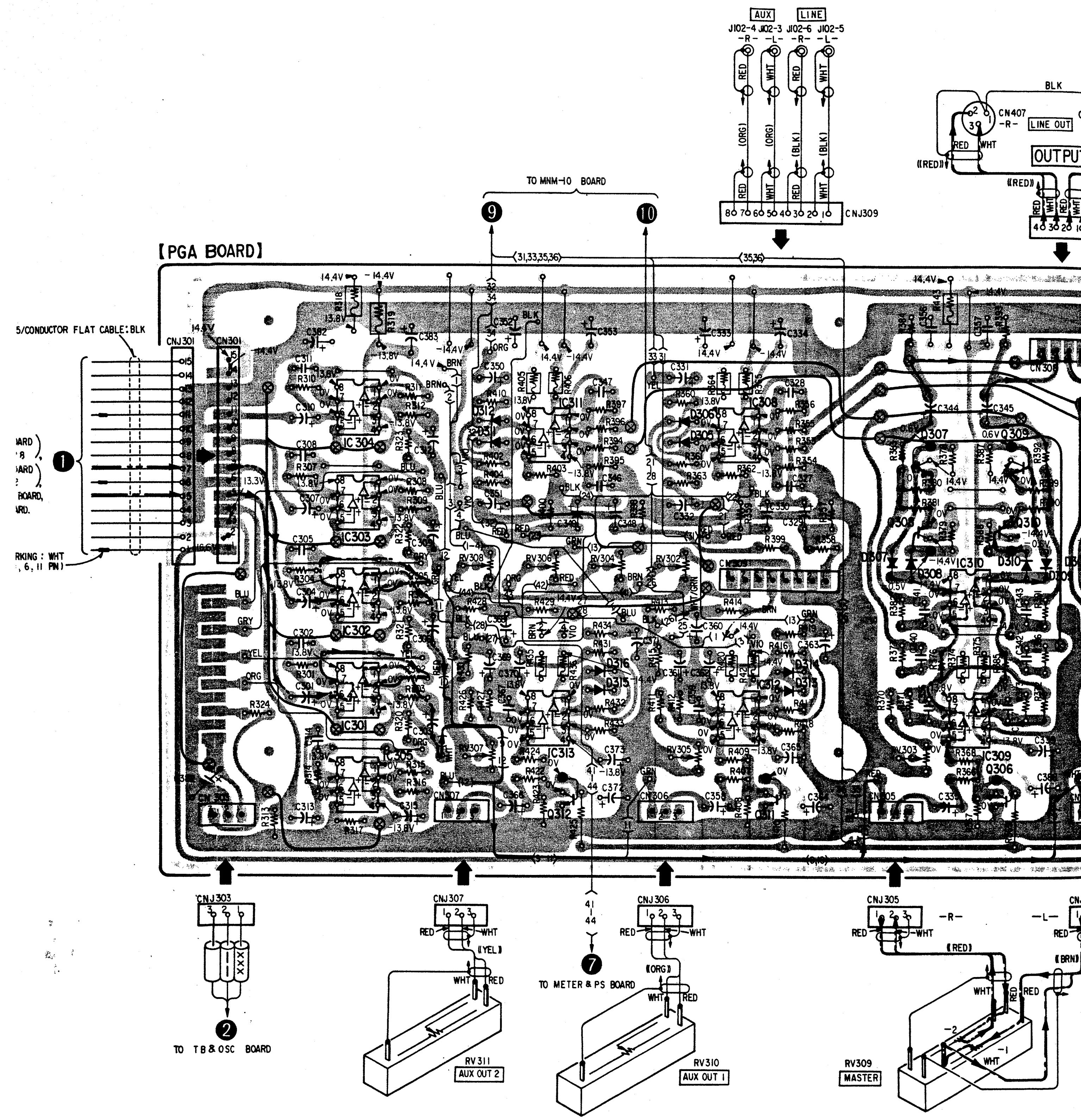
- All capacitors a
  50WV or less
  and tantalums.
- All resistors ar
  kΩ : 1000Ω, M



MOUNT
PGA BC

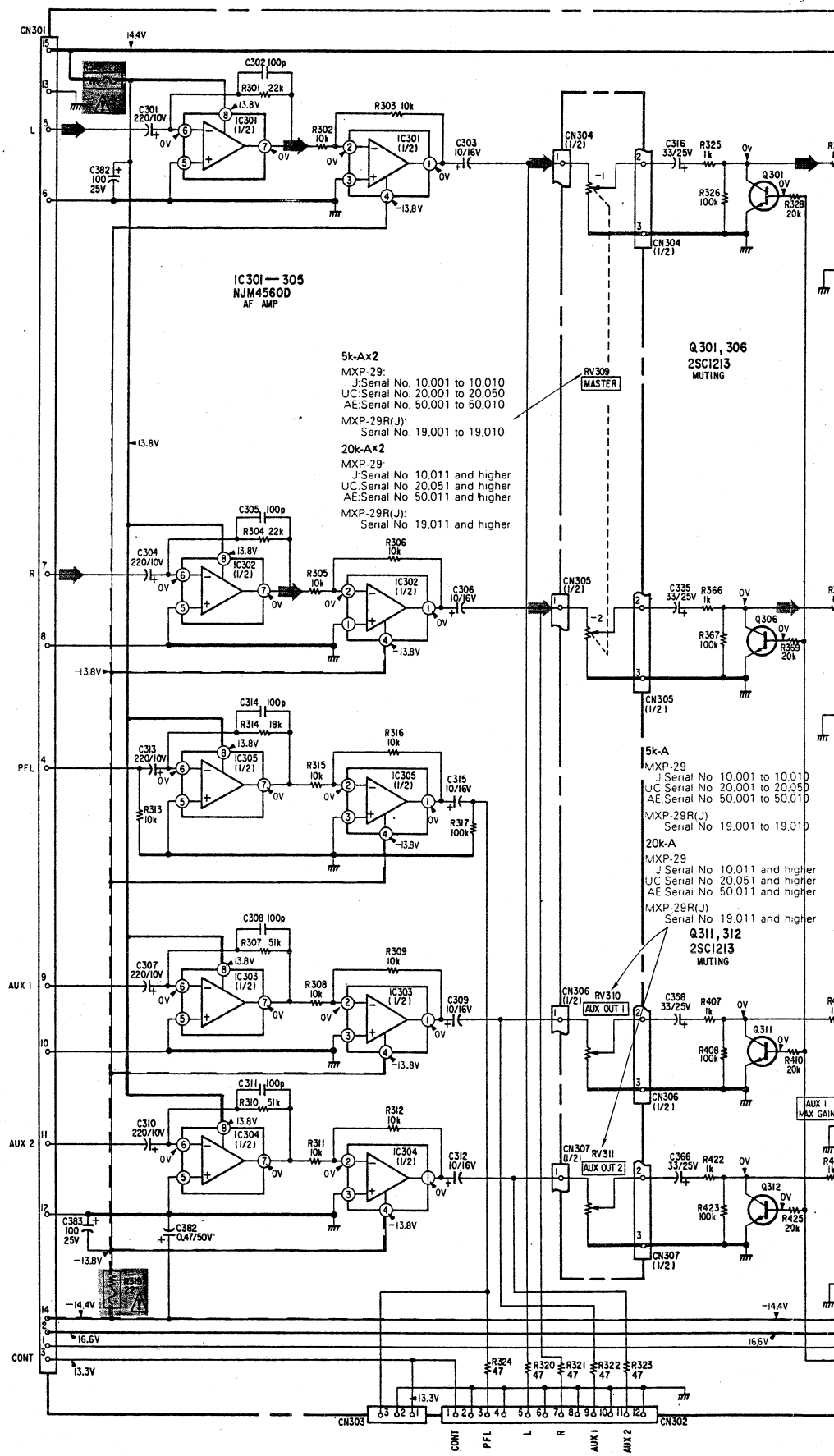
line
or
slit
or
dot

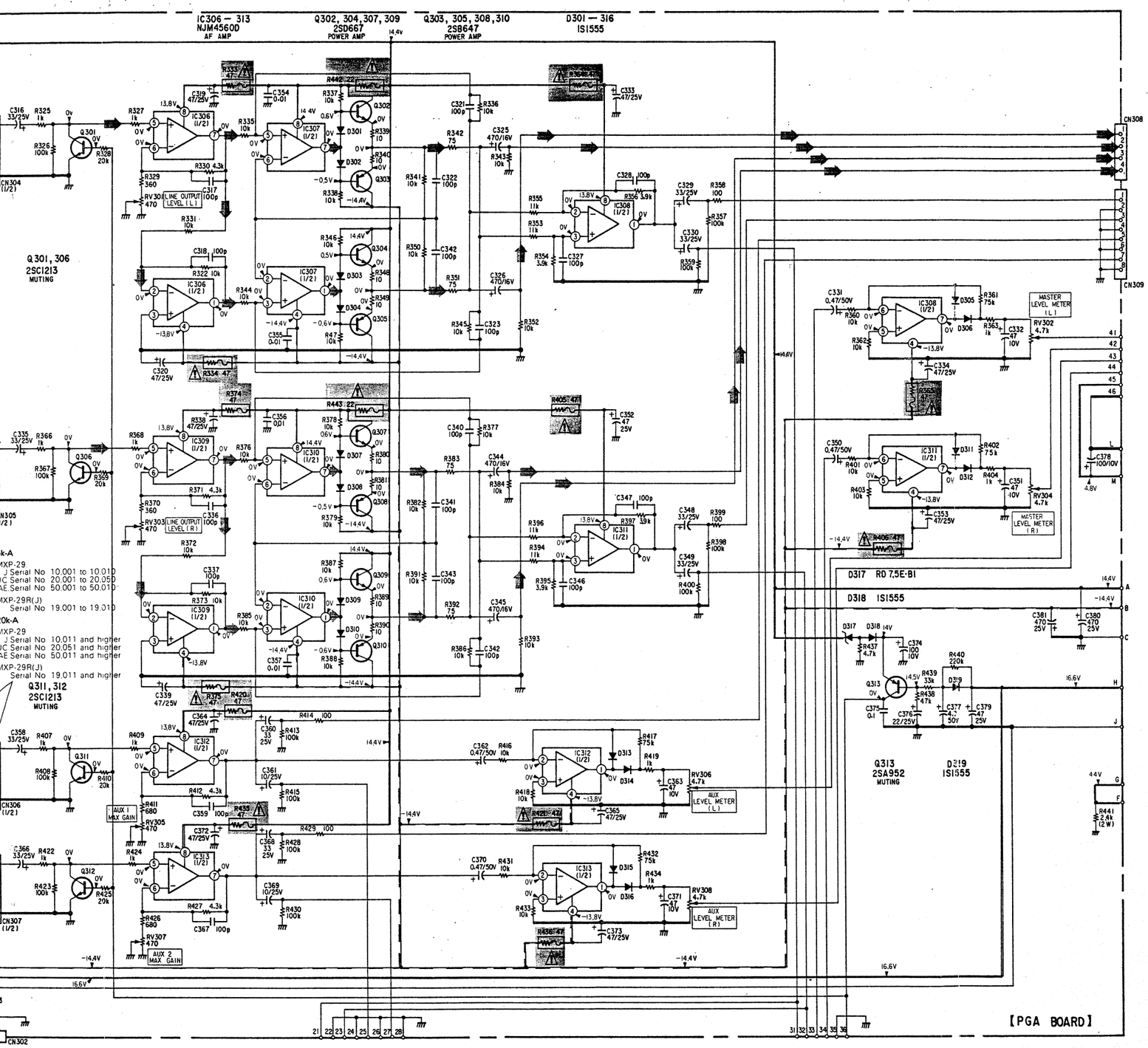
Note
- Co



Q · IC	IC304 IC303 IC302 IC301 IC305		IC311 IC313 312			IC308 IC312 311		307 308	IC310 IC309	309 310 306
D		312 311		316 315	306 305		314 313	307,306		310,309

SCHEMATIC DIAGRAM (4)
PGA BOARD





Note:

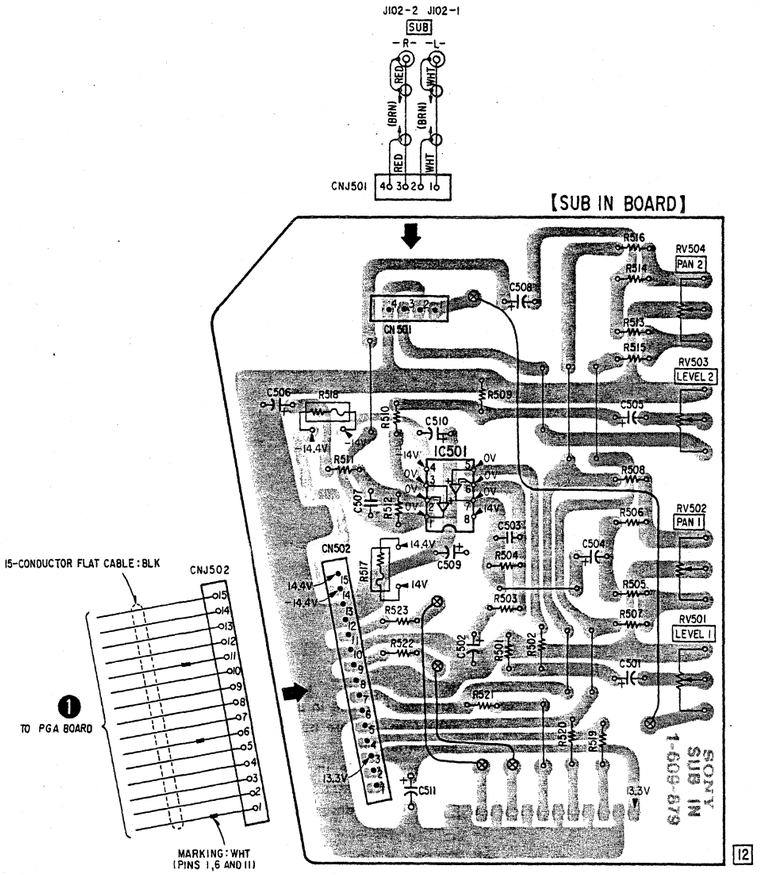
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- – – –: B– bus.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
- ➡ : signal path

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

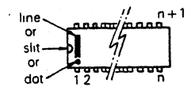
Note: Voltages are measured with a VOM (50kΩ/V).

MOUNTING DIAGRAM (5)
SUB IN BOARD



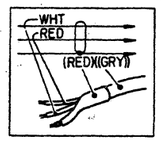
- **Semiconductor Lead Layouts**

NJM4560D



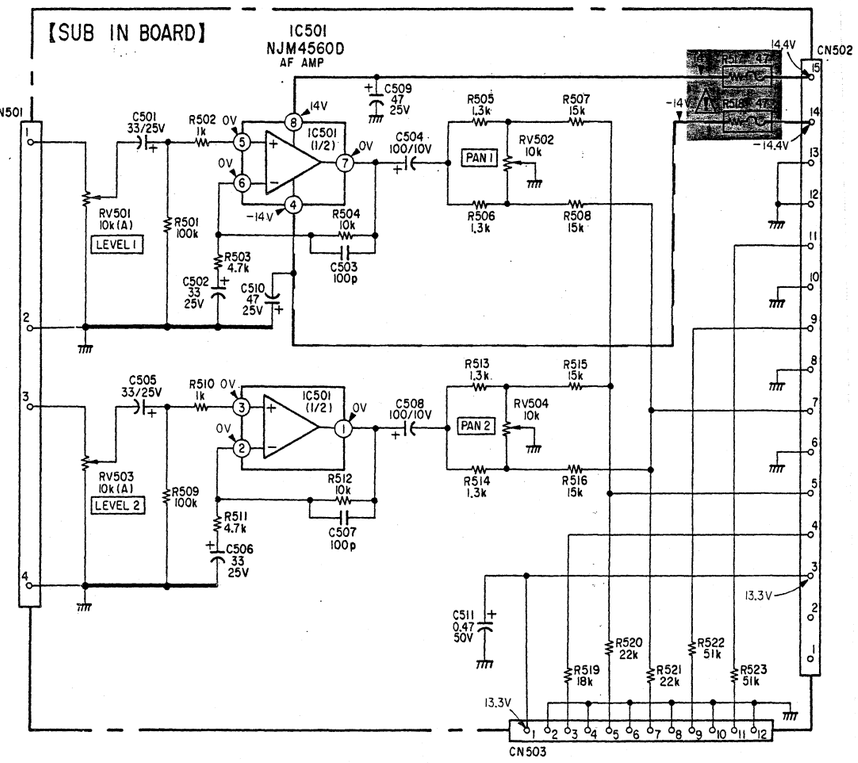
Note:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- Ⓕ : fusible resistor.
- ▒ : B + pattern
- ▓ : B — pattern
- ⊗ : Through hole.

SCHEMATIC DIAGRAM (5)
SUB IN BOARD



Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : panel designation.
- ——— : B+ bus.
- – – – : B– bus.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

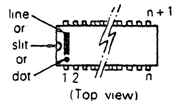
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Voltages are measured with a VOM (50kΩ/V).

MOUNTING DIAGRAM (6)
HPA BOARD

- **Semiconductor Lead Layouts**

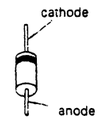
NJM4560D



2SB548
2SD414

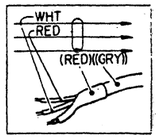


1S1555



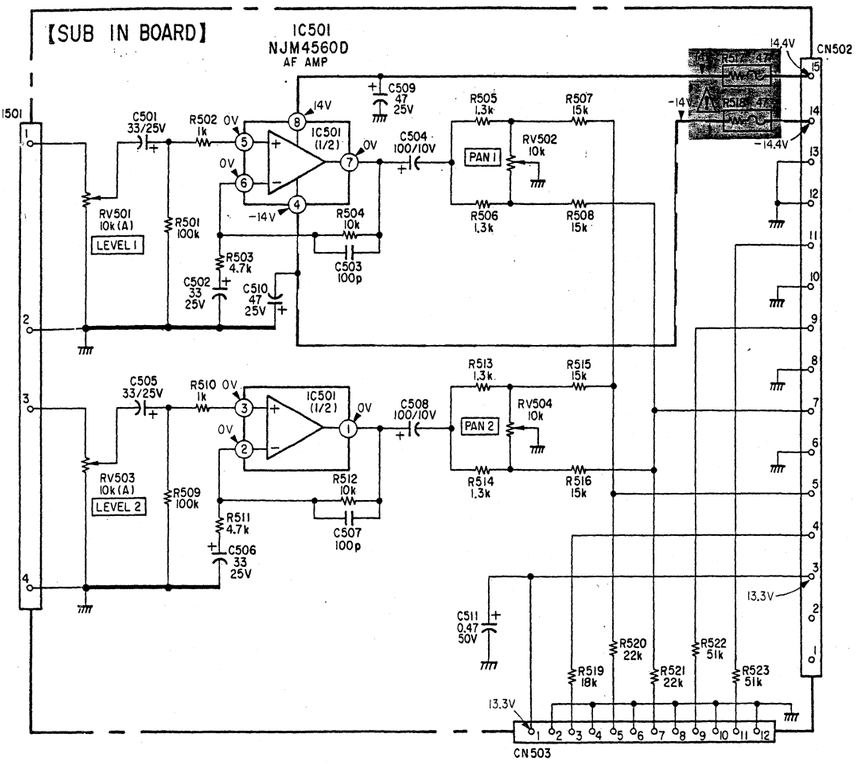
Note:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ⊗ : Through hole.
- ▒ : B + pattern
- ▓ : B — pattern

CHEMATIC DIAGRAM (5)
UB IN BOARD



Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : panel designation.
- ——: B+ bus.
- – – –: B– bus.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

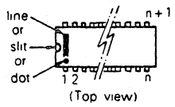
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Voltages are measured with a VOM (50kΩ/V).

MOUNTING DIAGRAM (6)
HPA BOARD

- **Semiconductor Lead Layouts**

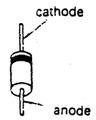
NJM4560D



2SB548
2SD414
letter side

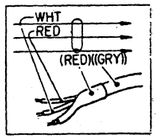


1S1555



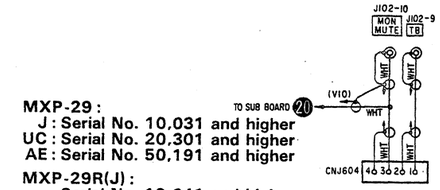
Note:

- Color code of sleeving over the end of the jacket.

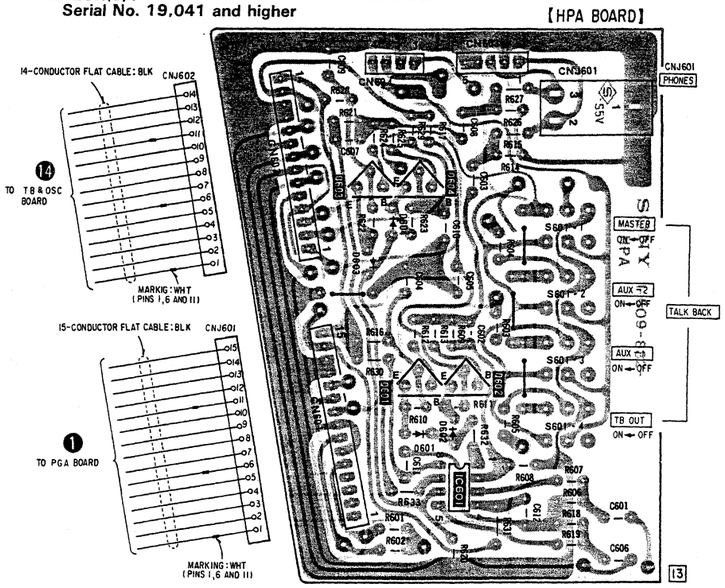


- ○— : parts extracted from the component side.
- ⊗ : Through hole.
- ▒: B + pattern
- ▓: B— pattern

MXP-29 :
J : Serial No. 10,031 and higher
UC : Serial No. 20,301 and higher
AE : Serial No. 50,191 and higher
MXP-29R(J) :
Serial No. 19,041 and higher



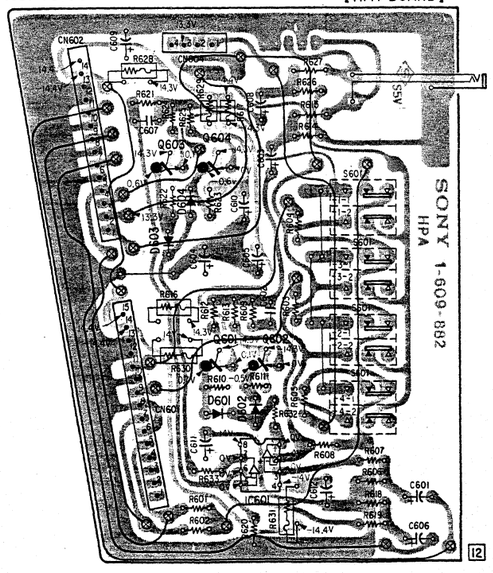
【HPA BOARD】



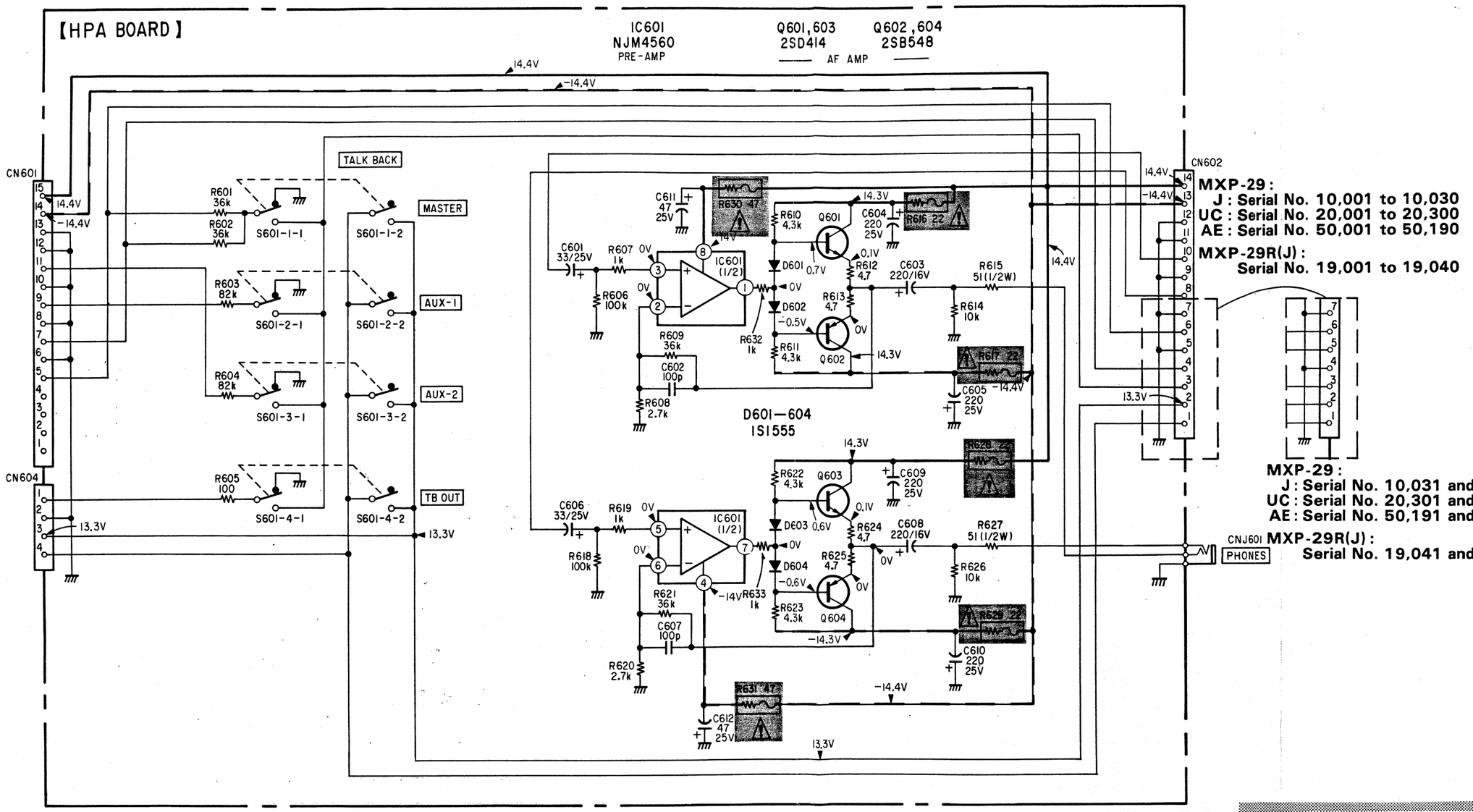
Q-IC	D
603 604	604
	603
601, 602	602 601
IC601	

MXP-29 :
J : Serial No. 10,001 to 10,030
UC : Serial No. 20,001 to 20,300
AE : Serial No. 50,001 to 50,190
MXP-29R(J) :
Serial No. 19,001 to 19,040

【HPA BOARD】



SCHEMATIC DIAGRAM (6)
HPA BOARD



Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ▭ : panel designation.
- ——: B+ bus.
- – – –: B- bus.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

- Switch

Ref. No.	Switch	Position
S601-1	TALK BACK MASTER	OFF
S601-2	TALK BACK AUX 1	OFF
S601-3	TALK BACK AUX 2	OFF
S601-4	TALK BACK TB OUT	OFF

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

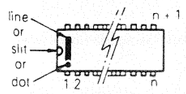
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Voltages are measured with a VOM (50kΩ/V).

MOUNTING DIAGRAM (7)
TB AND OSC BOARD

- **Semiconductor Lead Layouts**

CX770A
NJM4560D

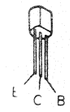


(Top view)

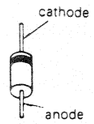
2SA952



2SC1364



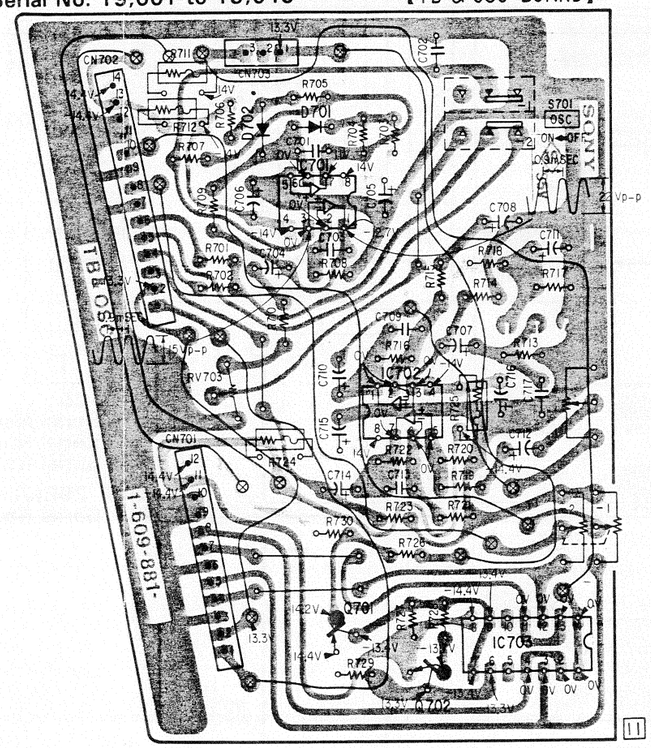
1S1555



MXP-29 :
J : Serial No. 10,001 to 10,030
UC : Serial No. 20,001 to 20,300
AE : Serial No. 50,001 to 50,190

MXP-29R(J) :
Serial No. 19,001 to 19,040

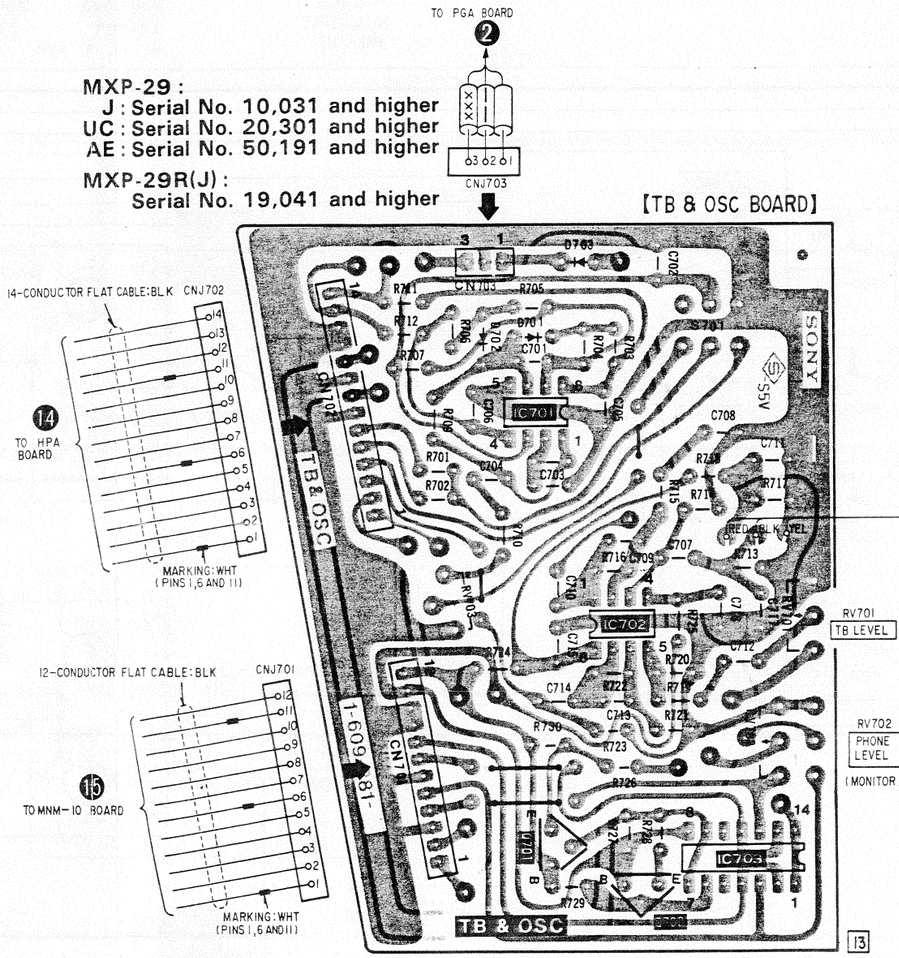
【TB & OSC BOARD】



MXP-29 :
J : Serial No. 10,031 and higher
UC : Serial No. 20,301 and higher
AE : Serial No. 50,191 and higher

MXP-29R(J) :
Serial No. 19,041 and higher

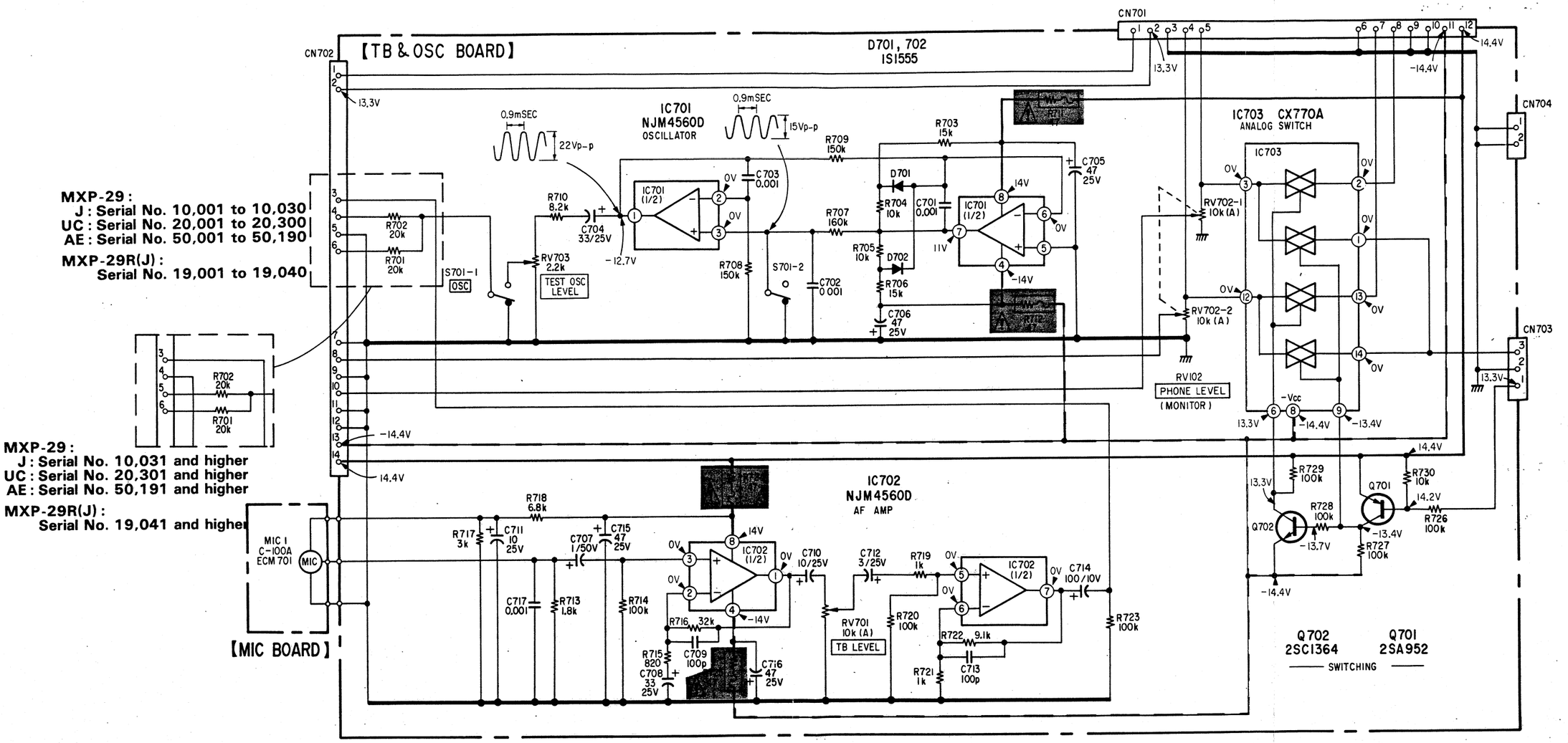
【TB & OSC BOARD】



Q IC	IC701 701	IC702 702	IC703
D	702 701		

Note:
- ○— : parts extracted from the component side.
- ⊗ : Through hole.
- ▒ : B + pattern
- ▓ : B — pattern

SCHEMATIC DIAGRAM (7)
TB AND OSC BOARD



Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- – – –: B– bus.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

- Switch

Ref. No.	Switch	Position
S701	OSC	OFF

Note: Voltages are measured with a VOM (50kΩ/V).

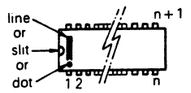
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MOUNTING DIAGRAM (8)
MNM-10 BOARD

- **Semiconductor Lead Layouts**

CX770A
NJM4560D



(Top view)

2SA952



2SC1213A

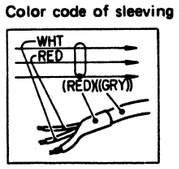


2SC1364



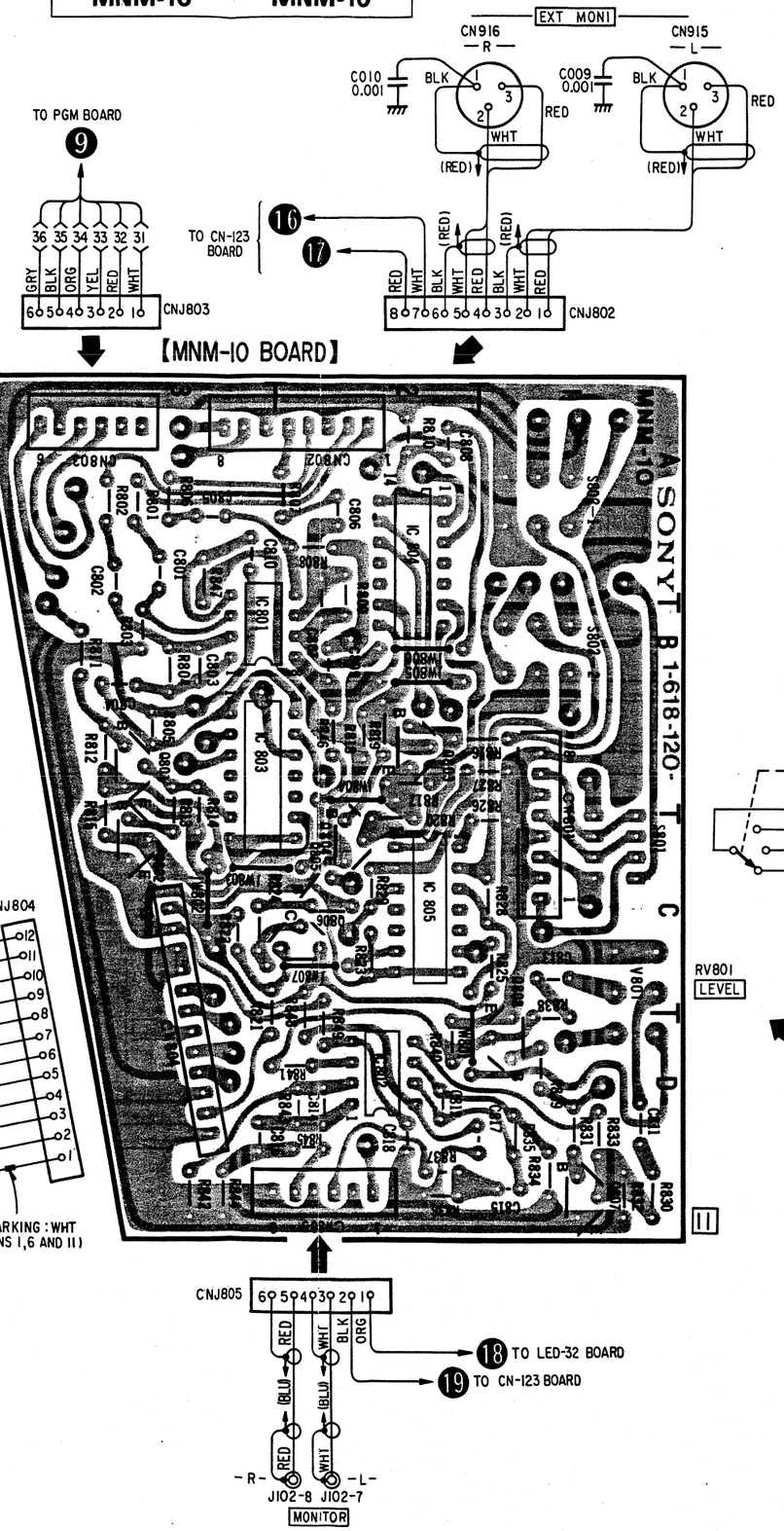
Note:

- Color code of sleeving over the end of the jacket.

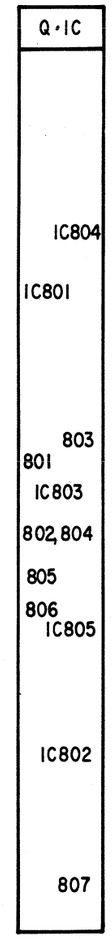


- o—: parts extracted from the component side.

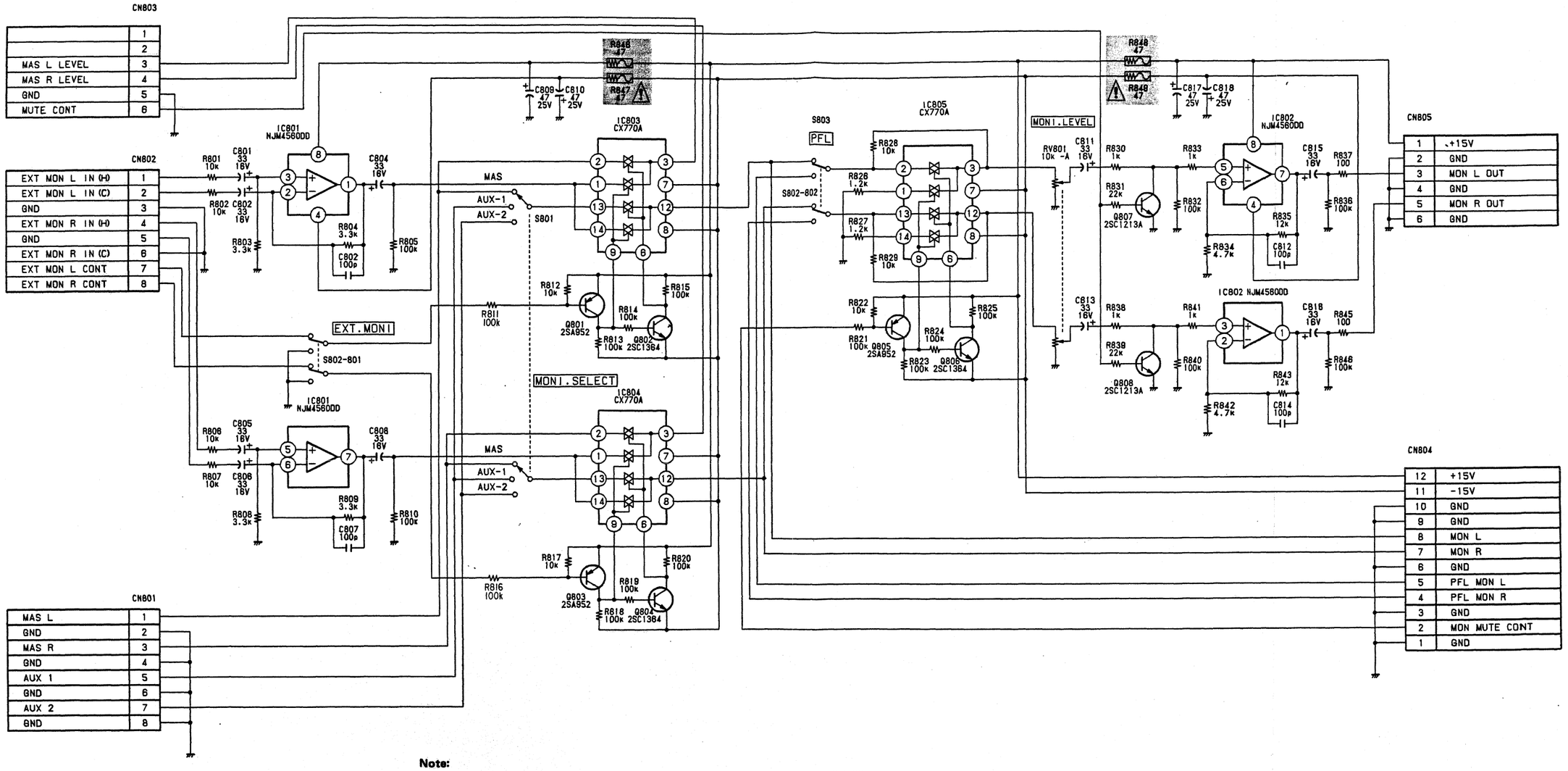
MNM-10 MNM-10



Q-IC



SCHEMATIC DIAGRAM (8)
MNM-10 BOARD



Note:

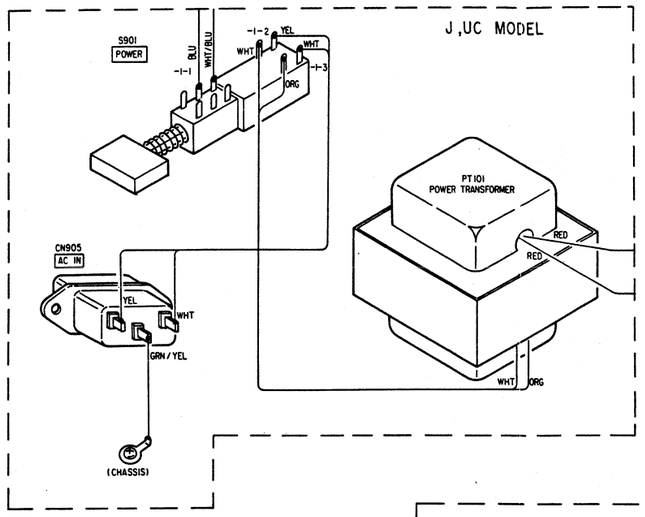
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- Switch

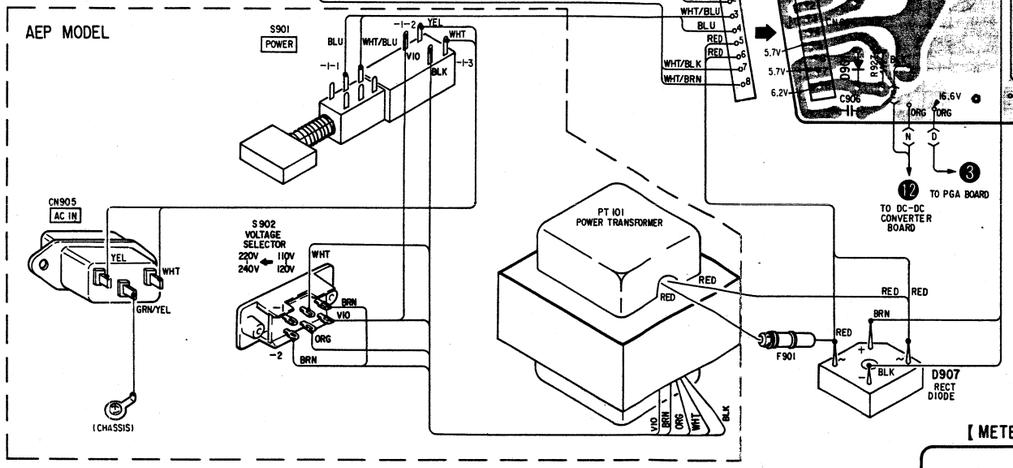
Ref. No.	Switch	Position
S801	SELECT	MASTER
S802-1	EXT MONI	OFF
S802-2	DFL	OFF

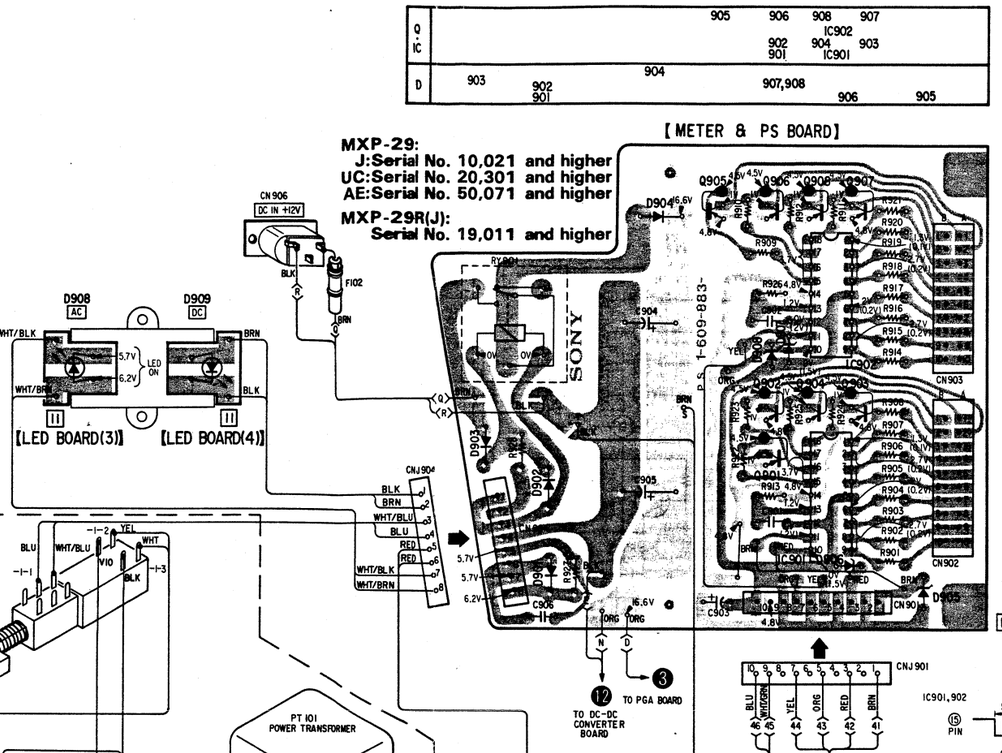
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

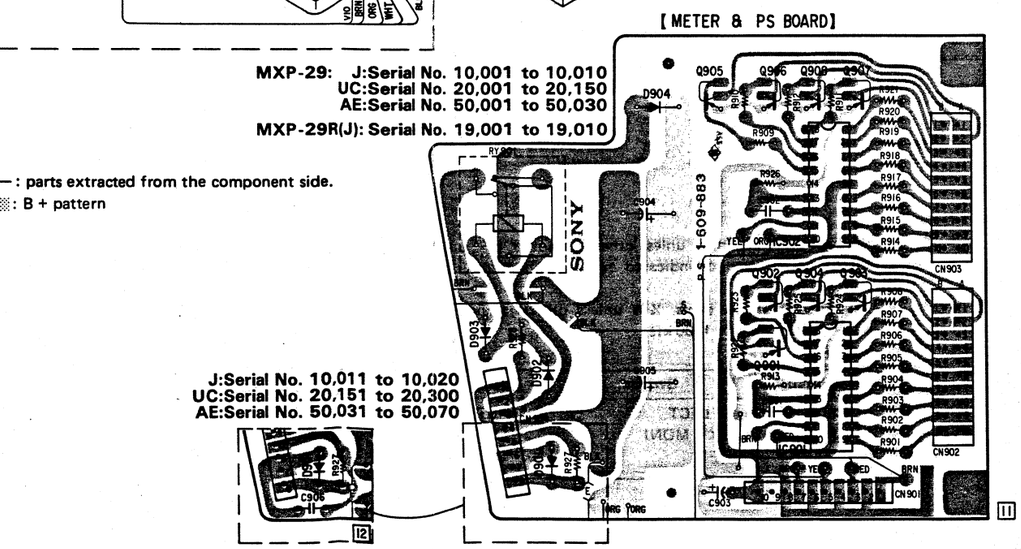
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MOUNTING DIAGRAM (9)
LED BOARD, METER AND PS BOARD







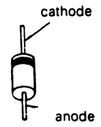


• Semiconductor Lead Layouts

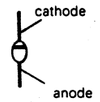
2SA952



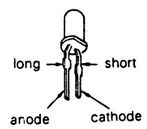
10E2



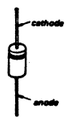
U05G



TLR124
TLG124

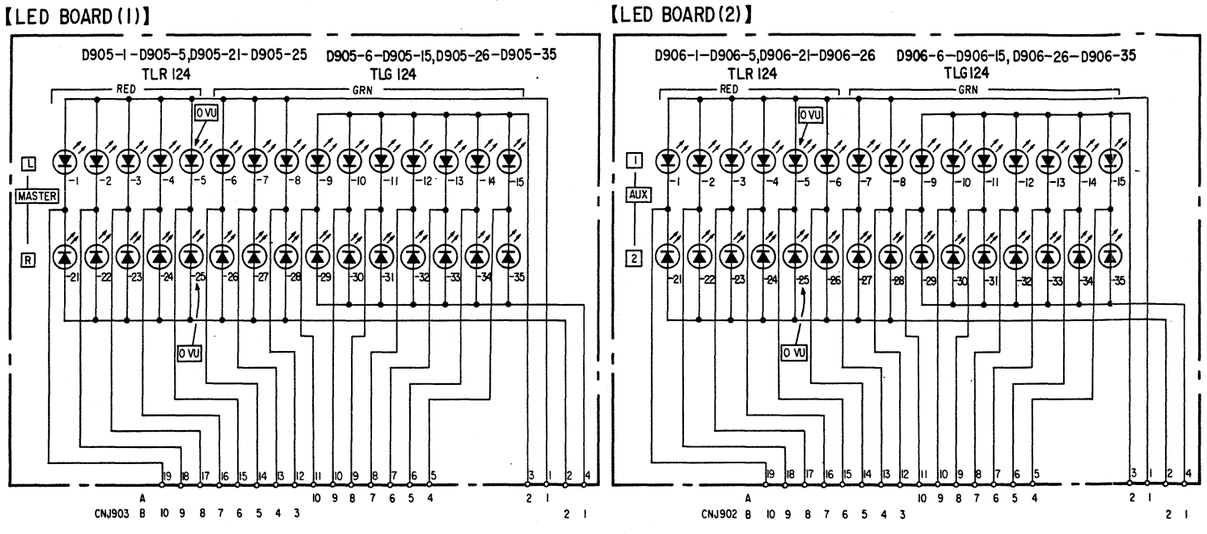


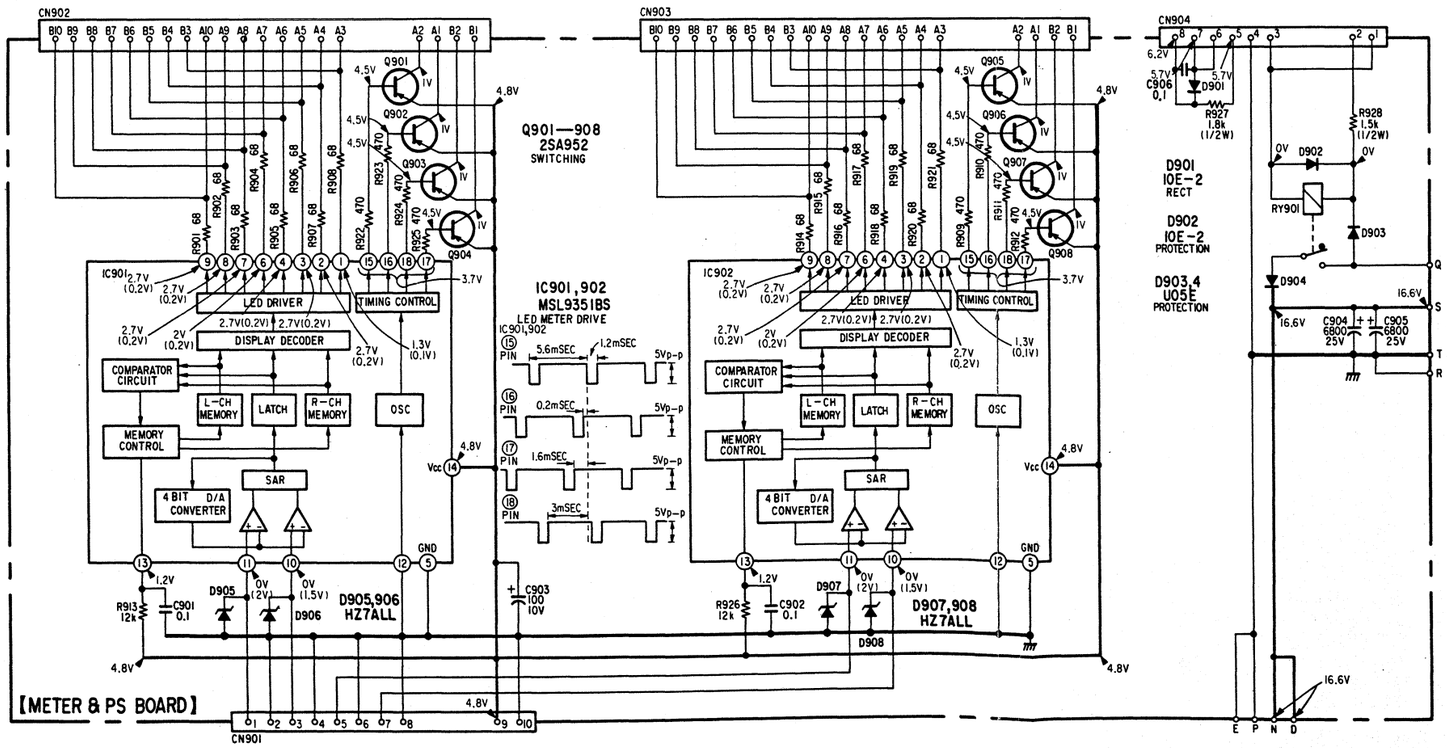
HZ7ALL



Note:
- ○—: parts extracted from the component side.
- ▒▒: B + pattern

SCHEMATIC DIAGRAM (9)
LED BOARD, METER AND PS BOARD





Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ▭ : panel designation.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V)

Note: Voltages are measured with a VOM (50kΩ/V).

SECTION B
REPLACEABLE PARTS

PARTS ORDERING INFORMATION

Standardization of Parts
Repair parts supplied from Sony Parts Center may not be always identical with the part which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".
This manual's exploded views and electrical parts list are indicating the part numbers of the "standardized genuine parts at present".

Parts marked with S in the column of SP
These parts are normally stocked as replaceable parts.

Parts marked with O in the column of SP
Orders for these parts will be processed, but allow for additional delivery time.

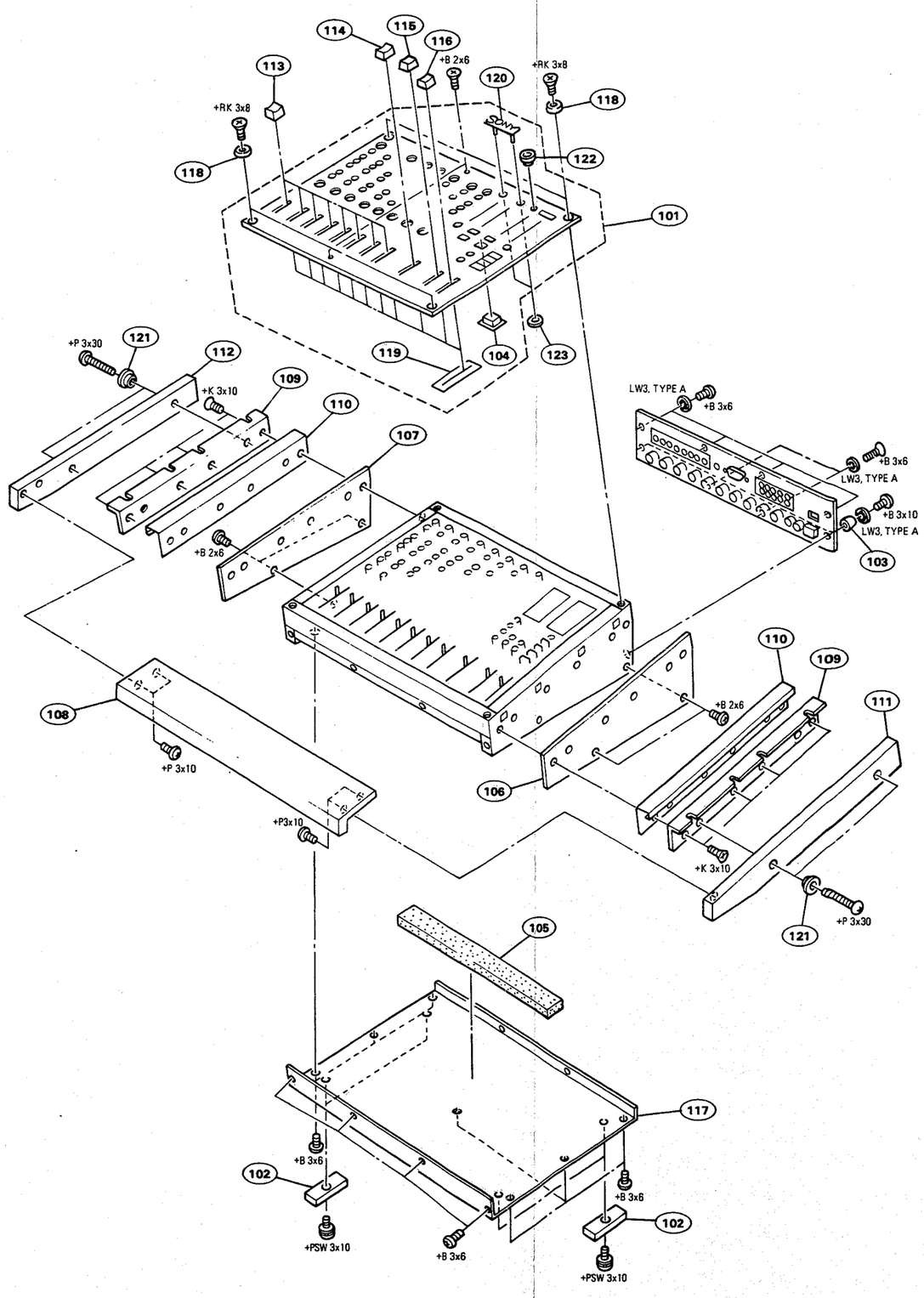
Parts without Part No.
These parts are not stocked because they are seldom required for routine service.

The components marked with ⚠ are critical to safe operation.
These components must be replaced with the same ones as described on the Parts List.

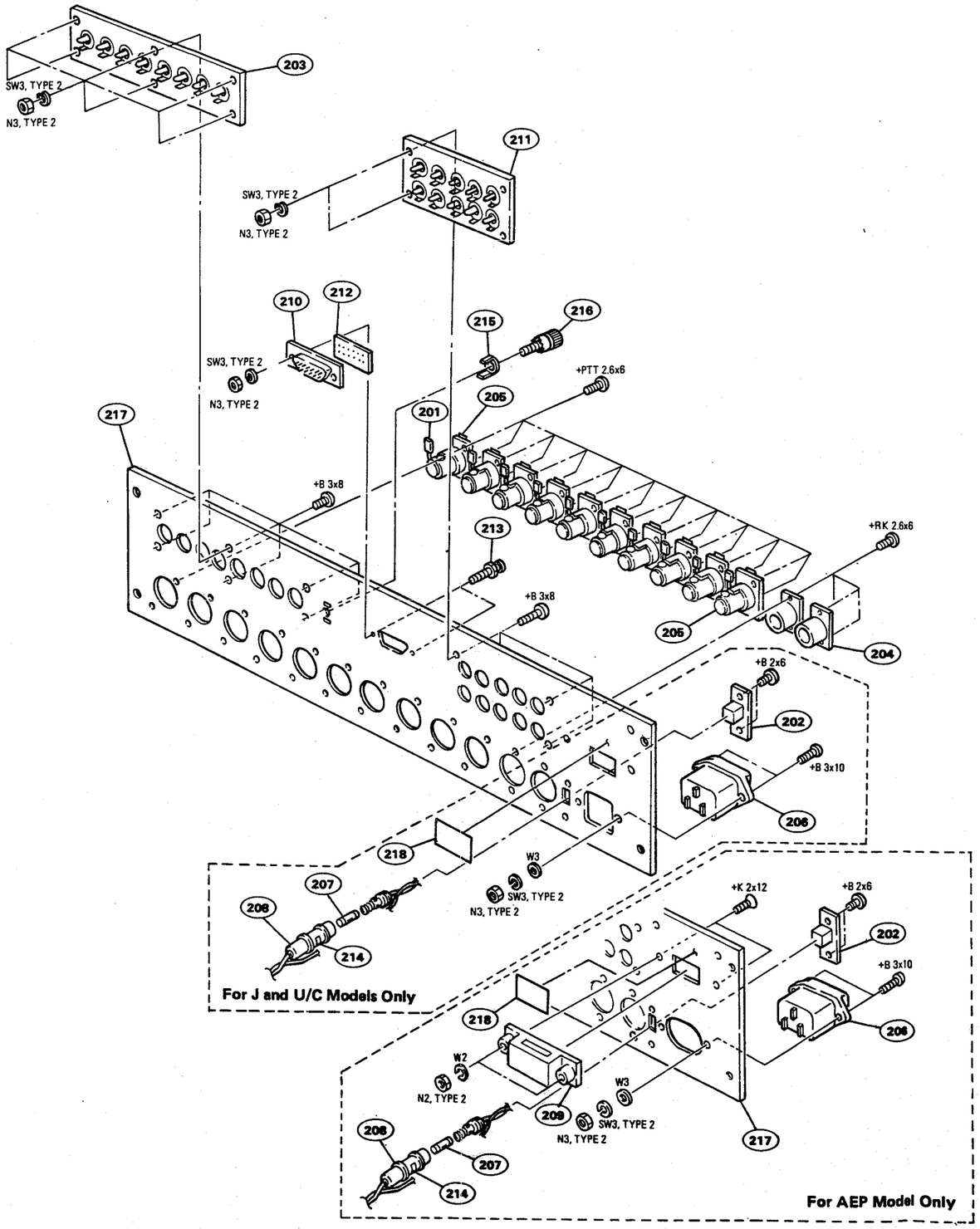
B-1. EXPLODED VIEWS AND PARTS LIST

OVERALL ASSY

Index No.	SP	Parts No.	Description
101	O	A-4322-786-A	PANEL ASSY,ORNAMENTAL
102	S	X-4852-903-0	LEG ASSY
103	S	2-092-326-XX	FOOT,RUBBER
104	S	2-380-404-00	GRILLE,MICROPHONE
105	O	2-380-407-00	CUSHION
106	O	2-380-419-21	COVER,SIDE
107	O	2-380-419-31	COVER,SIDE
108	O	2-380-420-11	TABLE
109	O	2-380-422-11	FRAME,MOUNT
110	O	2-380-423-11	COVER,MOUNT FRAME
111	O	2-380-424-11	BOARD (RIGHT),SIDE,ORNAMENTAL
112	O	2-380-425-11	BOARD (LEFT),SIDE,ORNAMENTAL
113	S	2-380-430-41	KNOB,SLIDE CONTROL (GRY)
114	S	2-380-430-51	KNOB,SLIDE CONTROL (RED)
115	S	2-380-430-61	KNOB,SLIDE CONTROL (GRN)
116	S	2-380-430-71	KNOB,SLIDE CONTROL (BLU)
117	O	2-380-443-11	PLATE,BOTTOM
118	S	3-451-111-21	WASHER,ORNAMENTAL
119	S	3-831-441-XX	CUSHION,SPEAKER GRILLE
120	S	4-836-828-00	EMBLEM,SONY
121	S	4-870-210-11	RING,PANEL RETAINER
122	O	4-906-512-01	ESCUTCHEON
123	S	7-624-190-81	STOP RING 2

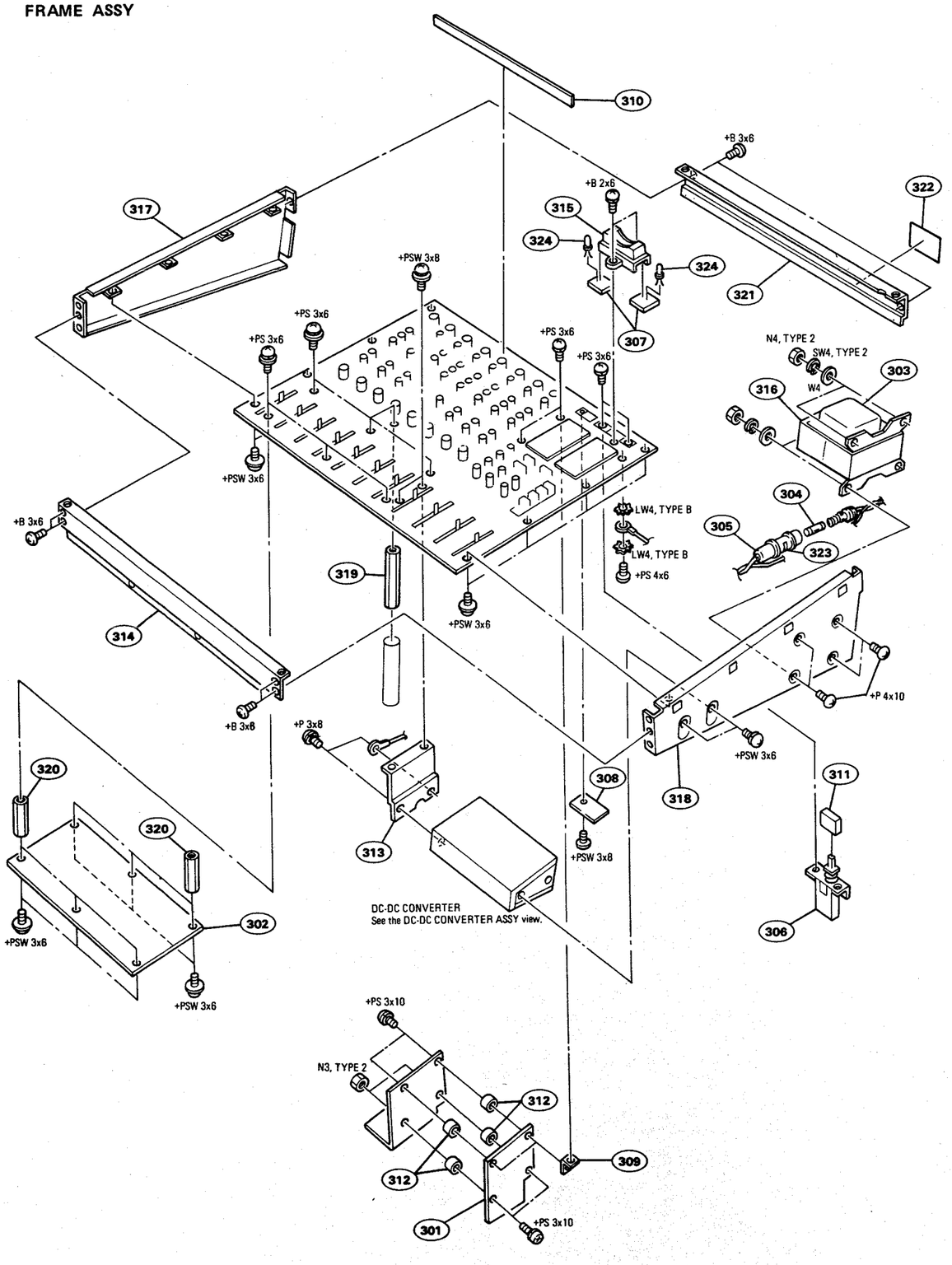


CONNECTOR PANEL ASSY



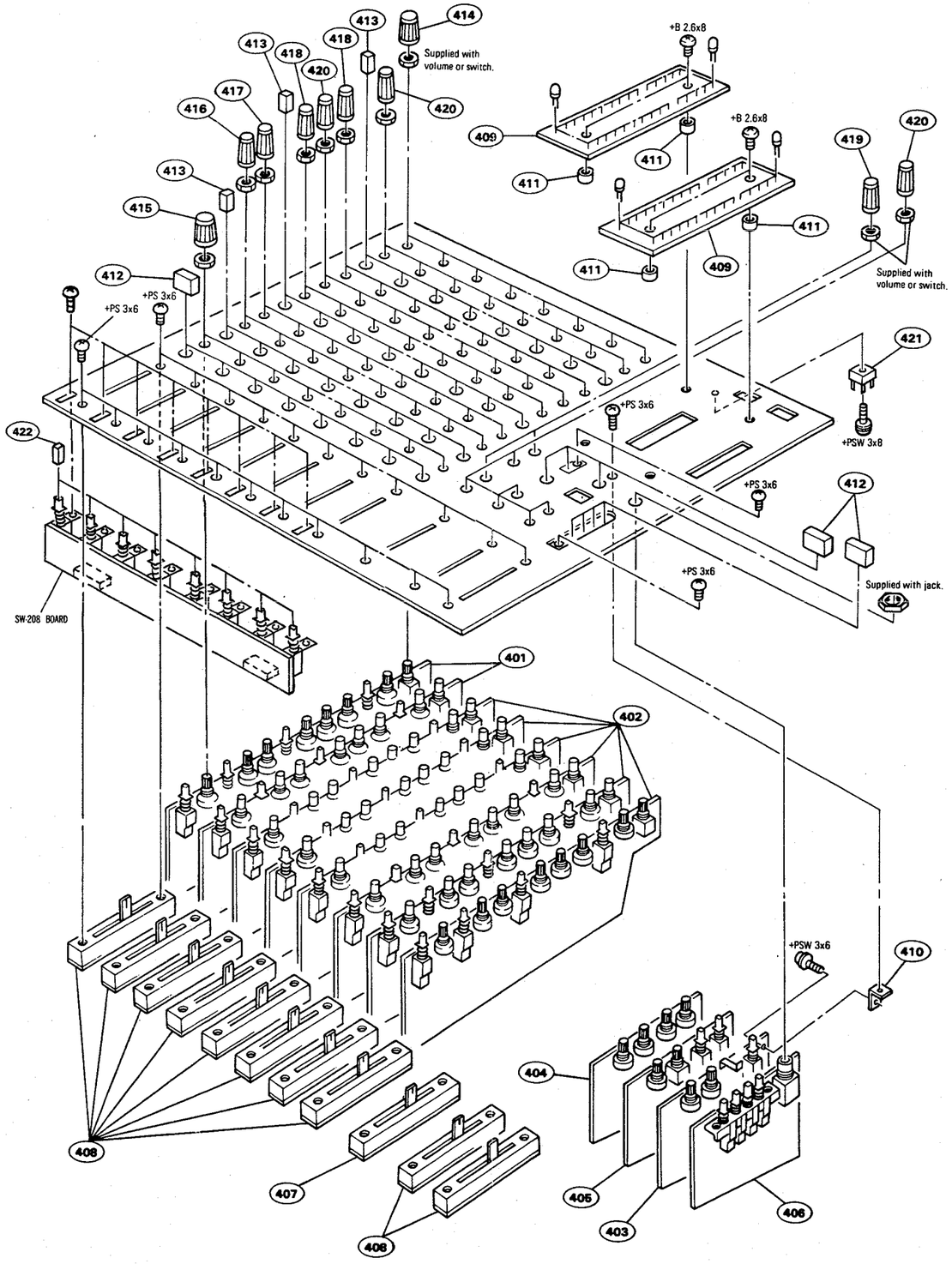
Index No.	SP	Parts No.	Description
201	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
202	S	1-507-866-00	JACK,EXTENTION POWER
203	S	1-507-867-00	JACK,PIN 8P
204	S	1-509-176-51	RECEPTACLE,MALE,XLR3P
205	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
206	S	⚠1-509-547-00	3P INLET
207	S	⚠1-532-299-00	FUSE,TIME-LAG 5A (For AE Model)
	S	⚠1-532-704-00	FUSE 5A (For J and UC Models)
208	S	1-533-102-XX	HOLDER,FUSE
209	S	⚠1-553-028-00	SWITCH,SLIDE (VOLTAGE SELECT) (For AE Model)
210	S	1-560-712-00	PLUG,CONNECTOR,15-PIN D-SUB
211	S	1-563-235-11	JACK,PIN 10P
212	O	1-618-122-11	PC BOARD,CN-123
213	O	3-668-459-00	SCREW,CONNECTOR
214	S	3-701-946-27	LABEL,FUSE (For J and UC Models)
	S	3-701-948-21	LABEL,FUSE (For AE Model)
215	S	3-701-993-00	SPACER,TERMINAL
216	O	3-706-165-00	SCREW
217	O	4-906-513-01	PANEL,CONNECTOR
218	S	9-911-863-XX	FIBER SHEET,INSULATING

FRAME ASSY



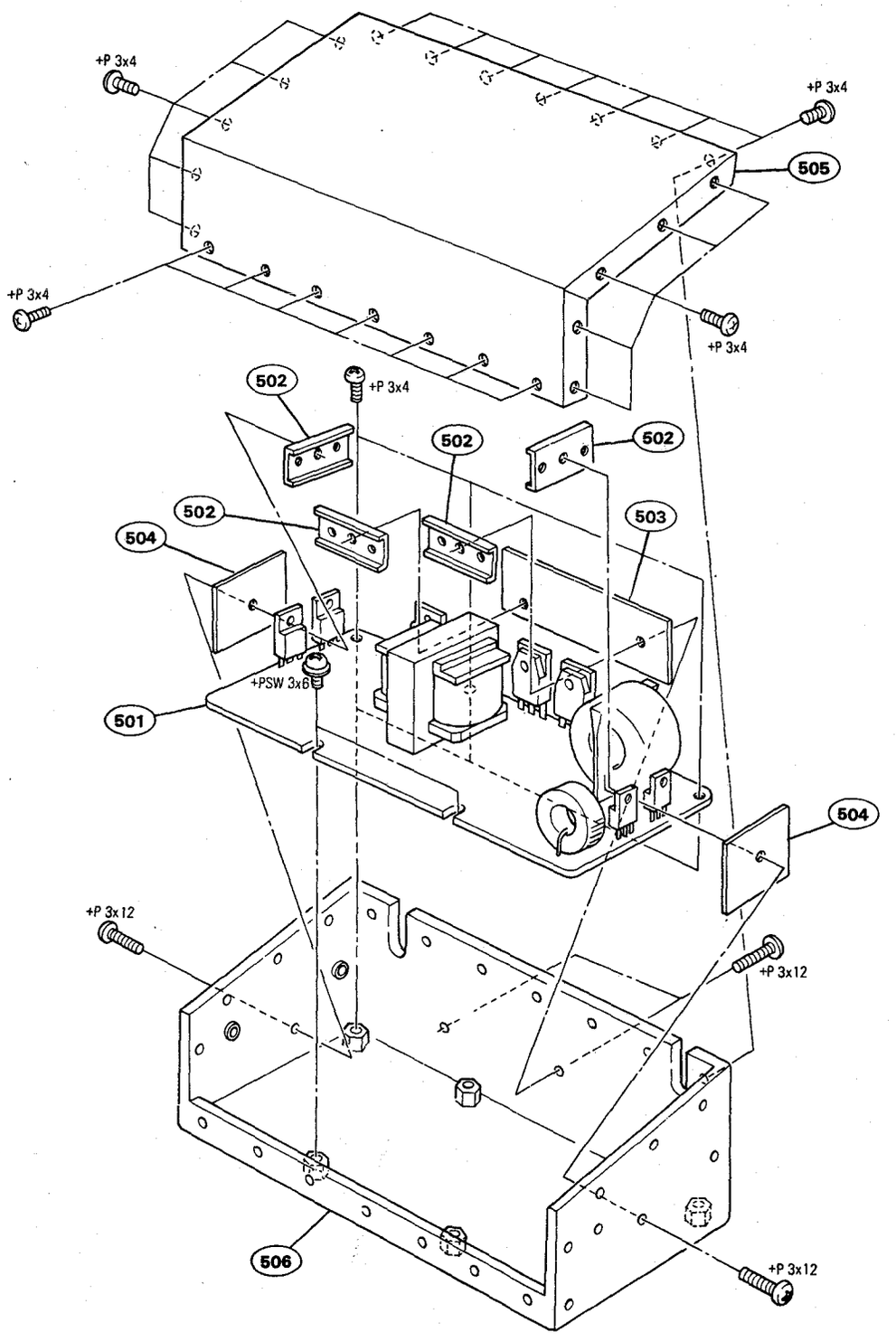
Index No.	SP	Parts No.	Description
301	O	A-4380-070-A	COMPLETE PCB,METER
302	O	A-4385-230-A	COMPLETE PCB,PGA
303	S	⚠1-447-574-00	TRANSFORMER,POWER (For J and UC Models)
	S	⚠1-447-575-00	TRANSFORMER,POWER (For AE Model)
304	S	⚠1-532-299-00	FUSE,TIME-LAG 5A (For AE Model)
	S	⚠1-532-704-00	FUSE 5A (For J and UC Models)
305	S	1-533-102-XX	HOLDER,FUSE
306	S	⚠1-553-840-00	SWITCH,PUSH (For J and UC Models)
	S	⚠1-553-841-00	SWITCH,PUSH (For AE Model)
307	O	1-609-884-00	PC BOARD,LED
308	O	1-618-121-11	PC BOARD,LED-32
309	O	2-380-405-00	BRACKET,PC BOARD
310	O	2-380-410-00	SPACER,LED
311	S	2-380-411-11	KNOB (LARGE),PUSH BUTTON
312	S	2-380-413-00	COLLAR,SHIELD PLATE
313	O	2-380-416-00	BRACKET,DDC
314	O	2-380-418-00	COVER,FRONT
315	O	2-380-426-00	GRILLE,POWER SWITCH
316	O	2-380-427-00	FRAME,TRANSFORMER SHIELD
317	O	2-380-433-00	FRAME (LEFT),SIDE
318	O	2-380-434-00	FRAME (RIGHT),SIDE
319	O	2-380-437-00	SUPPORT,BOTTOM PLATE
320	O	2-380-438-00	SUPPORT,PGA PC BOARD
321	O	2-380-441-11	COVER,REAR
322	O	2-380-448-00	LABEL,CAUTION
323	S	3-701-946-27	LABEL,FUSE (For J and UC Models)
	S	3-701-948-21	LABEL,FUSE (For AE Model)
324	S	8-719-812-41	DIODE TLR124

CHASSIS ASSY



Index No.	SP	Parts No.	Description
401	O	A-4358-165-A	COMPLETE PCB,IPM-10
402	O	A-4358-167-A	COMPLETE PCB,IPM-11
403	O	A-4363-040-A	COMPLETE PCB,TB
404	O	A-4382-230-A	COMPLETE PCB,SUB
405	O	A-4385-228-A	COMPLETE PCB,MNM-10
406	O	A-4385-231-A	COMPLETE PCB,HP
407	S	1-237-360-11	RES,VAR,SOLID 20K/20K
408	S	1-237-361-11	RES,VAR,SOLID 20K
409	S	1-806-650-11	DIODE (LED BLOCK)
410	O	2-380-405-00	BRACKET,PC BOARD
411	S	2-380-408-00	COLLAR,LED
412	S	2-380-411-11	KNOB (LARGE),PUSH BUTTON
413	S	2-380-412-21	KNOB (SMALL),PUSH BUTTON
414	S	4-906-510-01	KNOB (LARGE),ROTARY (D.GRY)
415	S	4-906-510-11	KNOB (LARGE),ROTARY (RED)
416	S	4-906-511-01	KNOB (SMALL),ROTARY (GRN)
417	S	4-906-511-11	KNOB (SMALL),ROTARY (BLU)
418	S	4-906-511-21	KNOB (SMALL),ROTARY (YEL)
419	S	4-906-511-31	KNOB (SMALL),ROTARY (RED)
420	S	4-906-511-41	KNOB (SMALL),ROTARY (L.GRY)
421	S	8-719-504-40	DIODE S4VB40
422	S	4-904-372-21	BUTTON,SWITCH

DC-DC CONVERTER ASSY



Index No.	SP	Parts No.	Description
501	O	A-4394-323-A	MOUNTED PCB,CONVERTER,DC-DC
502	O	2-275-902-00	BRACKET,TRANSISTOR
503	S	2-380-414-00	INSULATOR (A)
504	S	2-380-415-00	INSULATOR (B)
505	O	2-380-431-00	LID,CASE
506	O	2-380-432-00	CASE,ALUMINUM

B-2. ELECTRICAL PARTS LIST

NOTE:

MXP-29

Serial No. (J) of the parts marked with (*1): 10001 to 10010
Serial No. (UC) of the parts marked with (*1): 20001 to 20300
Serial No. (AE) of the parts marked with (*1): 50001 to 50030
Serial No. (J) of the parts marked with (*2): 10011 and higher
Serial No. (UC) of the parts marked with (*2): 20301 and higher
Serial No. (AE) of the parts marked with (*2): 50031 and higher
Serial No. (J) of the parts marked with (*3): 10001 to 10010
Serial No. (UC) of the parts marked with (*3): 20001 to 20150
Serial No. (AE) of the parts marked with (*3): 50001 to 50030
Serial No. (J) of the parts marked with (*4): 10011 and higher
Serial No. (UC) of the parts marked with (*4): 20151 and higher
Serial No. (AE) of the parts marked with (*4): 50031 and higher

MXP-29R (J)

Serial No. of the parts marked with (*1): 19001 to 19010
Serial No. of the parts marked with (*2): 19011 and higher
Serial No. of the parts marked with (*3): 19001 to 19010
Serial No. of the parts marked with (*4): 19011 and higher

Serial No.	*A	*B
MXP-29 (J)	10001 – 10030	10031 and Higher
(UC)	20001 – 20300	20301 and Higher
(AE)	50001 – 50190	50191 and Higher
MXP-29R (J)	19001 – 19040	19041 and Higher

Ref. No.	SP	Part No.	Description
DC-DC CONVERTER BOARD			
-	O	A-4394-323-A	MOUNTED PCB,CONVERTER,DC-DC
(This assembly includes the following parts.)			
C1	S	1-108-599-00	CAP,MYLAR 0.068 5% 50V
C2	S	1-124-128-00	CAP,ELECT 470 20% 25V
C3	S	1-106-192-00	CAP,MYLAR 0.0068 5% 100V
C4	S	1-123-230-00	CAP,ELECT (NONPOLAR) 2.2 20% 50V
C5	S	1-124-126-00	CAP,ELECT 47 20% 25V
C6	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C7	S	1-124-128-00	CAP,ELECT 470 20% 25V
C8	S	1-124-126-00	CAP,ELECT 47 20% 25V
C9	S	1-108-595-00	CAP,MYLAR 0.047 5% 50V
C10	S	1-108-595-00	CAP,MYLAR 0.047 5% 50V
C11	S	1-124-130-00	CAP,ELECT 100 20% 63V
C12	S	1-124-130-00	CAP,ELECT 100 20% 63V
C13	S	1-124-368-00	CAP,ELECT 330 20% 63V
C14	S	1-124-367-00	CAP,ELECT 470 20% 10V
C15	S	1-124-123-00	CAP,ELECT 100 20% 10V
C16	S	1-123-876-00	CAP,ELECT 330 20% 25V
C17	S	1-123-876-00	CAP,ELECT 330 20% 25V
C18	S	1-124-128-00	CAP,ELECT 470 20% 25V
C19	S	1-124-128-00	CAP,ELECT 470 20% 25V
C20	S	1-123-333-00	CAP,ELECT 100 20% 25V
C21	S	1-123-333-00	CAP,ELECT 100 20% 25V
C22	S	1-124-126-00	CAP,ELECT 47 20% 25V
C23	S	1-124-126-00	CAP,ELECT 47 20% 25V
C24	S	1-123-330-00	CAP,ELECT 22 20% 25V
D1	S	1-806-660-11	DIODE ESAB85-009
D5	S	8-719-900-93	DIODE V09C
D6	S	8-719-900-93	DIODE V09C
D7	S	8-719-900-93	DIODE V09C
D8	S	8-719-900-93	DIODE V09C
D9	S	8-719-907-24	DIODE ESAC31-02D
D10	S	8-719-907-24	DIODE ESAC31-02D
D11	S	8-719-100-36	DIODE RD5.6EB3
IC1	S	8-759-937-59	IC MB3759
L1	S	1-421-495-00	COIL,CHOKE 2.2mH
L2	S	1-421-491-00	COIL,CHOKE 15UH
L3	S	1-421-588-00	COIL,CHOKE 150UH
L4	S	1-421-491-00	COIL,CHOKE 15UH
L5	S	1-421-462-00	COIL,CHOKE 10UH
L6	S	1-421-461-00	COIL,CHOKE 10UH
L7	S	1-421-461-00	COIL,CHOKE 10UH
L8	S	1-421-461-00	COIL,CHOKE 10UH
L9	S	1-421-461-00	COIL,CHOKE 10UH
Q1	S	1-806-219-11	TRANSISTOR 2SA1012-Y
Q2	S	8-729-178-54	TRANSISTOR 2SC2785
Q3	S	8-729-117-54	TRANSISTOR 2SA1175-F
Q4	S	8-729-900-47	TRANSISTOR 2SD1049
Q5	S	8-729-900-47	TRANSISTOR 2SD1049
Q6	S	8-729-133-43	TRANSISTOR 2SC2334-K
Q7	S	8-729-133-43	TRANSISTOR 2SC2334-K
Q8	S	1-806-219-11	TRANSISTOR 2SA1012-Y
R1	S	1-247-116-00	RES,CARBON 240 5% 1/4W
R7	S	1-247-704-11	RES,CARBON 220 5% 1/4W
R8	S	1-206-705-00	RES,METAL 150 5% 3W
R13	S	1-247-692-11	RES,CARBON 22 5% 1/4W
R14	S	⚠1-212-895-00	RES,FUSE 390 5% 1/4W
R15	S	1-247-216-00	RES,CARBON 100 5% 1/2W
R16	S	1-246-525-00	RES,CARBON 150K 5% 1/4W
R17	S	1-247-718-11	RES,CARBON 2.7K 5% 1/4W
R18	S	1-230-520-11	RES,ADJ,METAL GLAZE 1K
R19	S	1-247-138-00	RES,CARBON 2K 5% 1/4W
R20	S	⚠1-212-880-00	RES,FUSE 91 5% 1/4W
R21	S	1-247-216-00	RES,CARBON 100 5% 1/2W
R22	S	⚠1-217-399-00	RES,FUSE 100 5% 1/4W
R23	S	1-247-216-00	RES,CARBON 100 5% 1/2W
R24	S	1-247-872-00	RES,CARBON 51K 5% 1/6W
R25	S	1-247-872-00	RES,CARBON 51K 5% 1/6W
R26	S	1-217-625-00	RES,METAL 0.05 10% 2W
SCR1	S	8-719-834-21	THYRISTOR SF0R3B42
T1	S	1-543-100-00	CORE
T2	S	1-543-100-00	CORE
T3	S	1-447-580-00	TRANSFORMER,DC-DC CONVERTER
HP BOARD			
-	O	A-4385-231-B	COMPLETE PCB,HP *B
		A-4385-231-A	COMPLETE PCB,HP *A
(This assembly includes the following parts.)			
C601	S	1-123-343-00	CAP,ELECT 33 20% 35V
C602	S	1-107-085-00	CAP,MICA 100P 5% 50V
C603	S	1-123-321-00	CAP,ELECT 220 20% 16V
C604	S	1-123-334-00	CAP,ELECT 220 20% 25V
C605	S	1-123-334-00	CAP,ELECT 220 20% 25V
C606	S	1-123-343-00	CAP,ELECT 33 20% 35V
C607	S	1-107-085-00	CAP,MICA 100P 5% 50V
C608	S	1-123-321-00	CAP,ELECT 220 20% 16V
C609	S	1-123-334-00	CAP,ELECT 220 20% 25V
C610	S	1-123-334-00	CAP,ELECT 220 20% 25V
C611	S	1-123-332-00	CAP,ELECT 47 20% 25V
C612	S	1-123-332-00	CAP,ELECT 47 20% 25V
CN601	O	1-564-250-00	PIN,CONNECTOR 15P
CN602	O	1-564-249-00	PIN,CONNECTOR 14P
CN603	O	1-560-125-00	PLUG,CONNECTOR 5P
CN604	O	1-560-124-00	PLUG,CONNECTOR 4P

Ref. No.	SP	Part No.	Description
CNJ601	S	1-507-657-00	JACK
D601	S	8-719-911-19	DIODE 1SS119
D602	S	8-719-911-19	DIODE 1SS119
D603	S	8-719-911-19	DIODE 1SS119
D604	S	8-719-911-19	DIODE 1SS119
IC601	S	8-759-745-61	IC NJM4560D-D
Q601	S	8-729-180-92	TRANSISTOR 2SD809-K
Q602	S	8-729-154-82	TRANSISTOR 2SD548-R
Q603	S	8-729-180-92	TRANSISTOR 2SD809-K
Q604	S	8-729-154-82	TRANSISTOR 2SD548-R
R601	S	1-247-168-00	RES,CARBON 36K 5% 1/4W
R602	S	1-247-168-00	RES,CARBON 36K 5% 1/4W
R603	S	1-247-177-00	RES,CARBON 82K 5% 1/4W
R604	S	1-247-177-00	RES,CARBON 82K 5% 1/4W
R605	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R606	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R607	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R608	S	1-247-718-11	RES,CARBON 2.7K 5% 1/4W
R609	S	1-247-168-00	RES,CARBON 36K 5% 1/4W
R610	S	1-247-146-00	RES,CARBON 4.3K 5% 1/4W
R611	S	1-247-146-00	RES,CARBON 4.3K 5% 1/4W
R612	S	1-249-455-11	RES,CARBON 4.7 5% 1/4W
R613	S	1-249-455-11	RES,CARBON 4.7 5% 1/4W
R614	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R615	S	1-247-209-00	RES,CARBON 51 5% 1/2W
R616	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R617	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R618	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R619	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R620	S	1-247-718-11	RES,CARBON 2.7K 5% 1/4W
R621	S	1-247-168-00	RES,CARBON 36K 5% 1/4W
R622	S	1-247-146-00	RES,CARBON 4.3K 5% 1/4W
R623	S	1-247-146-00	RES,CARBON 4.3K 5% 1/4W
R624	S	1-249-455-11	RES,CARBON 4.7 5% 1/4W
R625	S	1-249-455-11	RES,CARBON 4.7 5% 1/4W
R626	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R627	S	1-247-209-00	RES,CARBON 51 5% 1/2W
R628	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R629	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R630	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R631	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R632	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R633	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
S601	S	1-554-476-00	SWITCH,PUSH (4 KEY)

IPM-10 BOARD

-	O	A-4358-165-A	COMPLETE PCB,IPM-10

(This assembly includes the following parts.)

C101	S	1-123-357-00	CAP,ELECT 22 20% 50V
C102	S	1-123-357-00	CAP,ELECT 22 20% 50V
C103	S	1-106-180-00	CAP,MYLAR 0.0022 5% 100V
C104	S	1-106-180-00	CAP,MYLAR 0.0022 5% 100V
C105	S	1-106-180-00	CAP,MYLAR 0.0022 5% 100V
C106	S	1-107-085-00	CAP,MICA 100P 5% 50V
C107	S	1-123-309-00	CAP,ELECT 330 20% 10V
C108	S	1-107-085-00	CAP,MICA 100P 5% 50V
C109	S	1-107-085-00	CAP,MICA 100P 5% 50V
C110	S	1-123-307-00	CAP,ELECT 100 20% 10V
C111	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C112	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C113	S	1-123-356-00	CAP,ELECT 10 20% 50V
C114	S	1-108-583-00	CAP,MYLAR 0.015 5% 50V
C115	S	1-107-097-00	CAP,MICA 330P 5% 50V
C116	S	1-106-186-00	CAP,MYLAR 0.0039 5% 100V
C117	S	1-123-307-00	CAP,ELECT 100 20% 10V
C118	S	1-123-307-00	CAP,ELECT 100 20% 10V
C119	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C120	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C121	S	1-107-210-00	CAP,MICA 22P 5% 500V
C122	S	1-107-210-00	CAP,MICA 22P 5% 500V
C123	S	1-123-307-00	CAP,ELECT 100 20% 10V
C124	S	1-123-307-00	CAP,ELECT 100 20% 10V
C125	S	1-123-343-00	CAP,ELECT 33 20% 35V
C126	S	1-123-307-00	CAP,ELECT 100 20% 10V
C127	S	1-123-343-00	CAP,ELECT 33 20% 35V
C128	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C129	S	1-106-192-00	CAP,MYLAR 0.0068 5% 100V
C130	S	1-108-587-00	CAP,MYLAR 0.022 5% 50V
C131	S	1-123-308-00	CAP,ELECT 220 20% 10V
C132	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C133	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C134	S	1-108-583-00	CAP,MYLAR 0.015 5% 50V
C135	S	1-123-356-00	CAP,ELECT 10 20% 50V
C136	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C137	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C138	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C139	S	1-107-077-00	CAP,MICA 47P 5% 50V
C140	S	1-123-343-00	CAP,ELECT 33 20% 35V
C141	S	1-123-343-00	CAP,ELECT 33 20% 35V
C142	S	1-123-307-00	CAP,ELECT 100 20% 10V
C143	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C144	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C145	S	1-123-356-00	CAP,ELECT 10 20% 50V
C146	S	1-123-380-00	CAP,ELECT 1 20% 100V
C147	S	1-123-332-00	CAP,ELECT 47 20% 25V
C148	S	1-123-332-00	CAP,ELECT 47 20% 25V
C149	S	1-123-343-00	CAP,ELECT 33 20% 35V
C150	S	1-107-085-00	CAP,MICA 100P 5% 500V
C151	S	1-107-085-00	CAP,MICA 100P 5% 500V
CN101	O	1-560-278-00	PLUG,CONNECTOR 8P
CN102	O	1-564-250-00	PIN,CONNECTOR 15P
CN103	O	1-560-123-00	PLUG,CONNECTOR 3P
D101	S	8-719-100-43	DIODE RD7.5E-B1
D102	S	8-719-100-43	DIODE RD7.5E-B1
D103	S	8-719-100-43	DIODE RD7.5E-B1
D104	S	8-719-100-43	DIODE RD7.5E-B1
D105	S	8-719-911-19	DIODE 1SS119
D106	S	8-719-812-41	DIODE TLR124
IC101	S	8-759-745-61	IC NJM4560D-D
IC102	S	8-759-745-61	IC NJM4560D-D
IC103	S	8-759-745-61	IC NJM4560D-D
IC104	S	8-759-910-56	IC 2150A
IC105	S	8-759-745-61	IC NJM4560D-D
Q101	S	8-729-908-62	TRANSISTOR 2SD786
Q102	S	8-729-908-62	TRANSISTOR 2SD786
Q103	S	8-729-377-59	TRANSISTOR 2SC1775-F
Q104	S	8-729-387-28	TRANSISTOR 2SA872-E
Q105	S	8-729-600-27	TRANSISTOR 2SC634-SP
R101	S	1-214-749-00	RES,METAL 6.8K 1% 1/4W
R102	S	1-214-749-00	RES,METAL 6.8K 1% 1/4W
R103	S	1-214-703-00	RES,METAL 82 1% 1/4W
R104	S	1-214-751-00	RES,METAL 8.2K 1% 1/4W
R105	S	1-247-692-11	RES,CARBON 22 5% 1/4W
R106	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R107	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R108	S	1-214-703-00	RES,METAL 82 1% 1/4W
R109	S	1-214-751-00	RES,METAL 8.2K 1% 1/4W
R110	S	1-247-692-11	RES,CARBON 22 5% 1/4W

Ref. No.	SP	Part No.	Description
R111	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R112	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R113	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R114	S(*1)	1-214-753-00	RES,METAL 10K 1% 1/4W
	S(*2)	1-214-741-00	RES,METAL 3.3K 1% 1/4W
R115	S(*1)	1-214-753-00	RES,METAL 10K 1% 1/4W
	S(*2)	1-214-741-00	RES,METAL 3.3K 1% 1/4W
R116	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R117	S	1-247-109-00	RES,CARBON 120 5% 1/4W
R118	S(*3)	1-214-761-00	RES,METAL 22K 1% 1/4W
	S(*4)	1-214-760-00	RES,METAL 20K 1% 1/4W
R121	S(*3)	1-214-761-00	RES,METAL 22K 1% 1/4W
	S(*4)	1-214-760-00	RES,METAL 20K 1% 1/4W
R119	S	1-214-757-00	RES,METAL 15K 1% 1/4W
R120	S	1-214-757-00	RES,METAL 15K 1% 1/4W
R122	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R123	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R124	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R125	S	1-247-125-00	RES,CARBON 560 5% 1/4W
R126	S	1-214-785-00	RES,METAL 220K 1% 1/4W
R127	S	1-214-759-00	RES,METAL 18K 1% 1/4W
R128	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R129	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R130	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R131	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R132	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R133	S	1-246-529-00	RES,CARBON 220K 5% 1/4W
R134	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R135	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R136	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R137	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R138	S	1-246-529-00	RES,CARBON 220K 5% 1/4W
R139	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R140	S	1-246-529-00	RES,CARBON 220K 5% 1/4W
R141	S(*3)	1-249-469-11	RES,CARBON 100K 5% 1/4W
	S(*4)	1-246-529-00	RES,CARBON 220K 5% 1/4W
R142	S	1-246-531-00	RES,CARBON 270K 5% 1/4W
R143	S	1-246-533-46	RES,CARBON 330K 5% 1/4W
R144	S	1-247-125-00	RES,CARBON 560 5% 1/4W
R145	S	1-247-125-00	RES,CARBON 560 5% 1/4W
R146	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R147	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R148	S	1-247-133-00	RES,CARBON 1.2K 5% 1/4W
R149	S	1-247-167-00	RES,CARBON 33K 5% 1/4W
R150	S	1-247-149-00	RES,CARBON 5.6K 5% 1/4W
R151	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R152	S	1-247-696-11	RES,CARBON 47 5% 1/4W
R153	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R154	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R155	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R156	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R157	S	1-247-153-00	RES,CARBON 8.2K 5% 1/4W
R158	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R159	S	1-247-137-00	RES,CARBON 1.8K 5% 1/4W
R160	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R161	S	1-247-167-00	RES,CARBON 33K 5% 1/4W
R162	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R163	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R164	S	1-247-721-11	RES,CARBON 4.7K 5% 1/4W
R165	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R166	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R167	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R168	S	1-247-135-00	RES,CARBON 1.5K 5% 1/4W
R169	S	1-247-135-00	RES,CARBON 1.5K 5% 1/4W
R170	S	1-249-460-11	RES,CARBON 15K 5% 1/4W

Ref. No.	SP	Part No.	Description
R171	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R172	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R173	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R174	S	1-247-717-11	RES,CARBON 2.2K 5% 1/4W
R175	S	1-247-718-11	RES,CARBON 2.7K 5% 1/4W
R176	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R177	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R178	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
RV101	S	1-237-188-11	RES,VAR,CARBON 5K
RV102	S	1-237-183-11	RES,VAR,CARBON 250K
RV103	S	1-237-183-11	RES,VAR,CARBON 250K
RV104	S	1-237-183-11	RES,VAR,CARBON 250K
RV105	S	1-224-647-XX	RES,ADJ,CARBON 47K
RV106	S	1-237-185-11	RES,VAR,CARBON 5K
RV107	S	1-237-185-11	RES,VAR,CARBON 5K
RV108	S	1-237-187-11	RES,VAR,CARBON 10K
S101	S	1-570-603-11	SWITCH,ROTARY
S102	S	1-554-472-00	SWITCH,PUSH (1 KEY)
S103	S	1-554-472-00	SWITCH,PUSH (1 KEY)
S104	S	1-554-472-00	SWITCH,PUSH (1 KEY)
S105	S	1-554-474-00	SWITCH,PUSH (1 KEY)

IPM-11 BOARD

-	O	A-4358-167-A	COMPLETE PCB,IPM-11

(This assembly includes the following parts.)

C201	S	1-123-357-00	CAP,ELECT 22	20%	50V
C202	S	1-123-357-00	CAP,ELECT 22	20%	50V
C203	S	1-106-180-00	CAP,MYLAR 0.0022	5%	100V
C204	S	1-106-180-00	CAP,MYLAR 0.0022	5%	100V
C205	S	1-106-180-00	CAP,MYLAR 0.0022	5%	100V
C206	S	1-107-085-00	CAP,MICA 100P	5%	50V
C207	S	1-123-309-00	CAP,ELECT 330	20%	10v
C208	S	1-107-085-00	CAP,MICA 100P	5%	50V
C209	S	1-107-085-00	CAP,MICA 100P	5%	50V
C210	S	1-123-307-00	CAP,ELECT 100	20%	10V
C211	S	1-108-579-00	CAP,MYLAR 0.01	5%	50V
C212	S	1-108-579-00	CAP,MYLAR 0.01	5%	50V
C213	S	1-123-356-00	CAP,ELECT 10	20%	50V
C214	S	1-123-307-00	CAP,ELECT 100	20%	10V
C215	S	1-108-579-00	CAP,MYLAR 0.01	5%	50V
C216	S	1-108-579-00	CAP,MYLAR 0.01	5%	50V
C217	S	1-107-210-00	CAP,MICA 22P	5%	500V
C218	S	1-107-210-00	CAP,MICA 22P	5%	500V
C219	S	1-123-307-00	CAP,ELECT 100	20%	10V
C220	S	1-123-307-00	CAP,ELECT 100	20%	10V
C221	S	1-123-343-00	CAP,ELECT 33	20%	35V
C222	S	1-123-307-00	CAP,ELECT 100	20%	10V
C223	S	1-123-343-00	CAP,ELECT 33	20%	35V
C224	S	1-106-172-00	CAP,MYLAR 0.001	5%	100V
C225	S	1-106-192-00	CAP,MYLAR 0.0068	5%	100V
C226	S	1-108-587-00	CAP,MYLAR 0.022	5%	50V
C227	S	1-123-308-00	CAP,ELECT 220	20%	10V
C228	S	1-108-579-00	CAP,MYLAR 0.01	5%	50V
C229	S	1-108-579-00	CAP,MYLAR 0.01	5%	50V
C230	S	1-108-583-00	CAP,MYLAR 0.015	5%	50V

Ref. No.	SP	Part No.	Description
C231	S	1-123-356-00	CAP,ELECT 10 20% 50V
C232	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C233	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C234	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C235	S	1-107-077-00	CAP,MICA 47P 5% 50V
C236	S	1-123-343-00	CAP,ELECT 33 20% 35V
C237	S	1-123-343-00	CAP,ELECT 33 20% 35V
C238	S	1-123-307-00	CAP,ELECT 100 20% 10V
C239	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C240	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C241	S	1-123-356-00	CAP,ELECT 10 20% 50V
C242	S	1-123-380-00	CAP,ELECT 1 20% 100V
C243	S	1-123-332-00	CAP,ELECT 47 20% 25V
C244	S	1-123-332-00	CAP,ELECT 47 20% 25V
C245	S	1-123-343-00	CAP,ELECT 33 20% 35V
C246	S	1-107-085-00	CAP,MICA 100P 5% 500V
C247	S	1-107-085-00	CAP,MICA 100P 5% 500V
CN201	O	1-560-278-00	PLUG,CONNECTOR 8P
CN202	O	1-564-250-00	PIN,CONNECTOR 15P
CN203	O	1-560-123-00	PLUG,CONNECTOR 3P
D201	S	8-719-100-43	DIODE RD7.5E-B1
D202	S	8-719-100-43	DIODE RD7.5E-B1
D203	S	8-719-100-43	DIODE RD7.5E-B1
D204	S	8-719-100-43	DIODE RD7.5E-B1
D205	S	8-719-911-19	DIODE 1SS119
D206	S	8-719-812-41	DIODE TLR124
IC201	S	8-759-745-61	IC NJM4560D-D
IC202	S	8-759-745-61	IC NJM4560D-D
IC203	S	8-759-745-61	IC NJM4560D-D
IC204	S	8-759-910-56	IC 2150A
IC205	S	8-759-745-61	IC NJM4560D-D
Q201	S	8-729-908-62	TRANSISTOR 2SD786
Q202	S	8-729-908-62	TRANSISTOR 2SD786
Q203	S	8-729-377-59	TRANSISTOR 2SC1775-F
Q204	S	8-729-387-28	TRANSISTOR 2SA872-E
Q205	S	8-729-600-27	TRANSISTOR 2SC634-SP
R201	S	1-214-749-00	RES,METAL 6.8K 1% 1/4W
R202	S	1-214-749-00	RES,METAL 6.8K 1% 1/4W
R203	S	1-214-703-00	RES,METAL 82 1% 1/4W
R204	S	1-214-751-00	RES,METAL 8.2K 1% 1/4W
R205	S	1-247-692-11	RES,CARBON 22 5% 1/4W
R206	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R207	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R208	S	1-214-703-00	RES,METAL 82 1% 1/4W
R209	S	1-214-751-00	RES,METAL 8.2K 1% 1/4W
R210	S	1-247-692-11	RES,CARBON 22 5% 1/4W
R211	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R212	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R213	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R214	S(*1)	1-214-753-00	RES,METAL 10K 1% 1/4W
	S(*2)	1-214-741-00	RES,METAL 3.3K 1% 1/4W
R215	S(*1)	1-214-753-00	RES,METAL 10K 1% 1/4W
	S(*2)	1-214-741-00	RES,METAL 3.3K 1% 1/4W
R216	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R217	S	1-247-109-00	RES,CARBON 120 5% 1/4W
R218	S(*3)	1-214-761-00	RES,METAL 22K 1% 1/4W
	S(*4)	1-214-760-00	RES,METAL 20K 1% 1/4W
R221	S(*3)	1-214-761-00	RES,METAL 22K 1% 1/4W
	S(*4)	1-214-760-00	RES,METAL 20K 1% 1/4W
R219	S	1-214-757-00	RES,METAL 15K 1% 1/4W
R220	S	1-214-757-00	RES,METAL 15K 1% 1/4W
R222	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R223	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R224	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R225	S	1-247-125-00	RES,CARBON 560 5% 1/4W

Ref. No.	SP	Part No.	Description
R226	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R227	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R228	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R229	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R230	S	1-246-529-00	RES,CARBON 220K 5% 1/4W
R231	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R232	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R233	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R234	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R235	S	1-246-529-00	RES,CARBON 220K 5% 1/4W
R236	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R237	S	1-246-529-00	RES,CARBON 220K 5% 1/4W
R238	S(*3)	1-249-469-11	RES,CARBON100K 5% 1/4W
	S(*4)	1-246-529-00	RES,CARBON220K 5% 1/4W
R239	S	1-246-531-00	RES,CARBON 270K 5% 1/4W
R240	S	1-246-533-00	RES,CARBON 330K 5% 1/4W
R241	S	1-247-125-00	RES,CARBON 560 5% 1/4W
R242	S	1-247-125-00	RES,CARBON 560 5% 1/4W
R243	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R244	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R245	S	1-247-133-00	RES,CARBON 1.2K 5% 1/4W
R246	S	1-247-167-00	RES,CARBON 33K 5% 1/4W
R247	S	1-247-149-00	RES,CARBON 5.6K 5% 1/4W
R248	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R249	S	1-247-696-11	RES,CARBON 47 5% 1/4W
R250	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R251	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R252	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R253	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R254	S	1-247-153-00	RES,CARBON 8.2K 5% 1/4W
R255	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R256	S	1-247-137-00	RES,CARBON 1.8K 5% 1/4W
R257	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R258	S	1-247-167-00	RES,CARBON 33K 5% 1/4W
R259	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R260	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R261	S	1-247-721-11	RES,CARBON 4.7K 5% 1/4W
R262	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R263	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R264	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R265	S	1-247-135-00	RES,CARBON 1.5K 5% 1/4W
R266	S	1-247-135-00	RES,CARBON 1.5K 5% 1/4W
R267	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R268	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R269	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R270	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R271	S	1-247-717-11	RES,CARBON 2.2K 5% 1/4W
R272	S	1-247-718-11	RES,CARBON 2.7K 5% 1/4W
R273	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R274	S	⚠ 1-217-391-00	RES,FUSE 22 5% 1/4W
R275	S	⚠ 1-217-391-00	RES,FUSE 22 5% 1/4W
RV201	S	1-237-188-11	RES,VAR,CARBON 5K
RV202	S	1-237-183-11	RES,VAR,CARBON 250K
RV203	S	1-237-183-11	RES,VAR,CARBON 250K
RV204	S	1-237-183-11	RES,VAR,CARBON 250K
RV205	S	1-224-647-XX	RES,ADJ,CARBON 47K
RV206	S	1-237-185-11	RES,VAR,CARBON 5K
RV207	S	1-237-185-11	RES,VAR,CARBON 5K
RV208	S	1-237-187-11	RES,VAR,CARBON 10K
S201	S	1-570-603-11	SWITCH,ROTARY
S202	S	1-554-472-00	SWITCH,PUSH (1 KEY)
S203	S	1-554-472-00	SWITCH,PUSH (1 KEY)
S204	S	1-554-472-00	SWITCH,PUSH (1 KEY)
S205	S	1-554-474-00	SWITCH,PUSH (1 KEY)

Ref. No.	SP	Part No.	Description
LED-32 BOARD			
-	O	1-618-121-11	PC BOARD,LED-32
D1	S	8-719-811-43	DIODE TLY114A
R1	S	1-247-713-11	RES,CARBON 1K 5% 1/4W

Ref. No.	SP	Part No.	Description
R916	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R917	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R918	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R919	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R920	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R921	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R922	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R923	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R924	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R925	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R926	S	1-249-459-11	RES,CARBON 12K 5% 1/4W
R927	S	1-247-246-00	RES,CARBON 1.8K 5% 1/2W
R928	S	1-247-244-00	RES,CARBON 1.5K 5% 1/2W
RY901	S	1-515-459-21	RELAY

METER BOARD			
-	O	A-4380-070-A	COMPLETE PCB,METER
(This assembly includes the following parts.)			
C901	S	1-108-603-00	CAP,MYLAR 0.1 5% 50V
C902	S	1-108-603-00	CAP,MYLAR 0.1 5% 50V
C903	S	1-123-307-00	CAP,ELECT 100 20% 10V
C904	S	1-125-266-00	CAP,ELECT 6800 25V
C905	S	1-125-266-00	CAP,ELECT 6800 25V
C906	S	1-130-528-00	CAP,MYLAR 0.1 5% 50V
CN901	O	1-560-224-00	PLUG,CONNECTOR 10P
CN902	O	1-564-253-00	PLUG,CONNECTOR 20P
CN903	O	1-564-253-00	PLUG,CONNECTOR 20P
CN904	O	1-560-128-00	PLUG,CONNECTOR 8P
D901	S	8-719-200-02	DIODE 10E-2
D902	S	8-719-200-02	DIODE 10E-2
D903	S	8-719-200-02	DIODE 10E-2
D904	S	8-719-911-55	DIODE U05G
D905	S	8-719-914-11	DIODE HZ7ALL
D906	S	8-719-914-11	DIODE HZ7ALL
D907	S	8-719-914-11	DIODE HZ7ALL
D908	S	8-719-914-11	DIODE HZ7ALL
IC901	S	8-759-993-51	IC MSL9351RS
IC902	S	8-759-993-51	IC MSL9351RS
Q901	S	8-729-195-23	TRANSISTOR 2SA952
Q902	S	8-729-195-23	TRANSISTOR 2SA952
Q903	S	8-729-195-23	TRANSISTOR 2SA952
Q904	S	8-729-195-23	TRANSISTOR 2SA952
Q905	S	8-729-195-23	TRANSISTOR 2SA952
Q906	S	8-729-195-23	TRANSISTOR 2SA952
Q907	S	8-729-195-23	TRANSISTOR 2SA952
Q908	S	8-729-195-23	TRANSISTOR 2SA952
R709	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R710	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R711	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R712	S	1-247-708-11	RES,CARBON 470 5% 1/4W
R901	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R902	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R903	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R904	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R905	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R906	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R907	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R908	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R913	S	1-249-459-11	RES,CARBON 12K 5% 1/4W
R914	S	1-247-698-11	RES,CARBON 68 5% 1/4W
R915	S	1-247-698-11	RES,CARBON 68 5% 1/4W

MNM-10 BOARD			
-	O	A-4385-228-A	COMPLETE PCB,MNM-10
(This assembly includes the following parts.)			
C801	S	1-123-343-00	CAP,ELECT 33 20% 25V
C802	S	1-123-343-00	CAP,ELECT 33 20% 25V
C803	S	1-107-085-00	CAP,MICA 100P 5% 50V
C804	S	1-123-343-00	CAP,ELECT 33 20% 25V
C805	S	1-123-343-00	CAP,ELECT 33 20% 25V
C806	S	1-123-343-00	CAP,ELECT 33 20% 25V
C807	S	1-107-085-00	CAP,MICA 100P 5% 50V
C808	S	1-123-343-00	CAP,ELECT 33 20% 25V
C809	S	1-123-332-00	CAP,ELECT 47 20% 25V
C810	S	1-123-332-00	CAP,ELECT 47 20% 25V
C811	S	1-123-343-00	CAP,ELECT 33 20% 25V
C812	S	1-107-085-00	CAP,MICA 100P 5% 50V
C813	S	1-123-343-00	CAP,ELECT 33 20% 25V
C814	S	1-107-085-00	CAP,MICA 100P 5% 50V
C815	S	1-123-343-00	CAP,ELECT 33 20% 25V
C816	S	1-123-343-00	CAP,ELECT 33 20% 25V
C817	S	1-123-332-00	CAP,ELECT 47 20% 25V
C818	S	1-123-332-00	CAP,ELECT 47 20% 25V
CN801	O	1-560-128-00	PLUG,CONNECTOR 8P
CN802	O	1-560-128-00	PLUG,CONNECTOR 8P
CN803	O	1-560-126-00	PLUG,CONNECTOR 6P
CN804	O	1-564-248-00	PIN,CONNECTOR 12P
CN805	O	1-560-126-00	PLUG,CONNECTOR 6P
IC801	S	8-759-745-61	IC NJM4560D-D
IC802	S	8-759-745-61	IC NJM4560D-D
IC803	S	8-757-700-00	IC CX-770
IC804	S	8-757-700-00	IC CX-770
IC805	S	8-757-700-00	IC CX-770
Q801	S	8-729-195-23	TRANSISTOR 2SA952
Q802	S	8-729-600-27	TRANSISTOR 2SC634-SP
Q803	S	8-729-195-23	TRANSISTOR 2SA952
Q804	S	8-729-600-27	TRANSISTOR 2SC634-SP
Q805	S	8-729-195-23	TRANSISTOR 2SA952
Q806	S	8-729-600-27	TRANSISTOR 2SC634-SP
Q807	S	8-729-312-12	TRANSISTOR 2SC1213A
Q808	S	8-729-312-12	TRANSISTOR 2SC1213A

Ref. No.	SP	Part No.	Description
R801	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R802	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R803	S	1-247-719-11	RES,CARBON 3.3K 5% 1/4W
R804	S	1-247-719-11	RES,CARBON 3.3K 5% 1/4W
R805	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R806	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R807	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R808	S	1-247-719-11	RES,CARBON 3.3K 5% 1/4W
R809	S	1-247-719-11	RES,CARBON 3.3K 5% 1/4W
R810	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R811	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R812	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R813	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R814	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R815	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R816	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R817	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R818	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R819	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R820	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R821	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R822	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R823	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R824	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R825	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R826	S	1-247-133-00	RES,CARBON 1.2K 5% 1/4W
R827	S	1-247-133-00	RES,CARBON 1.2K 5% 1/4W
R828	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R829	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R830	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R831	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R832	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R833	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R834	S	1-247-721-11	RES,CARBON 4.7K 5% 1/4W
R835	S	1-249-459-11	RES,CARBON 12K 5% 1/4W
R836	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R837	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R838	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R839	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R840	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R841	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R842	S	1-247-721-11	RES,CARBON 4.7K 5% 1/4W
R843	S	1-249-459-11	RES,CARBON 12K 5% 1/4W
R844	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R845	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R846	S	⚠ 1-217-395-00	RES,FUSE 47 5% 1/4W
R847	S	⚠ 1-217-395-00	RES,FUSE 47 5% 1/4W
R848	S	⚠ 1-217-395-00	RES,FUSE 47 5% 1/4W
R849	S	⚠ 1-217-395-00	RES,FUSE 47 5% 1/4W
RV801	S	1-237-184-11	RES,VAR,CARBON 10K/10K
S801	S	1-570-604-11	SWITCH,ROTARY
S802	S	1-570-605-11	SWITCH,PUSH (2 KEY)

Ref. No.	SP	Part No.	Description
PGA BOARD			
-	O	A-4385-230-A	COMPLETE PCB,PGA
(This assembly includes the following parts.)			
C301	S	1-123-308-00	CAP,ELECT 220 20% 10V
C302	S	1-107-085-00	CAP,MICA 100P 5% 50V
C303	S	1-123-356-00	CAP,ELECT 10 20% 50V
C304	S	1-123-308-00	CAP,ELECT 220 20% 10V
C305	S	1-107-085-00	CAP,MICA 100P 5% 50V
C306	S	1-123-356-00	CAP,ELECT 10 20% 50V
C307	S	1-123-308-00	CAP,ELECT 220 20% 10V
C308	S	1-107-085-00	CAP,MICA 100P 5% 50V
C309	S	1-123-356-00	CAP,ELECT 10 20% 50V
C310	S	1-123-308-00	CAP,ELECT 220 20% 10V
C311	S	1-107-085-00	CAP,MICA 100P 5% 50V
C312	S	1-123-356-00	CAP,ELECT 10 20% 50V
C313	S	1-123-308-00	CAP,ELECT 220 20% 10V
C314	S	1-123-308-00	CAP,ELECT 220 20% 10V
C315	S	1-123-356-00	CAP,ELECT 10 20% 50V
C316	S	1-123-343-00	CAP,ELECT 33 20% 35V
C317	S	1-107-085-00	CAP,MICA 100P 5% 50V
C318	S	1-107-085-00	CAP,MICA 100P 5% 50V
C319	S	1-123-332-00	CAP,ELECT 47 20% 25V
C320	S	1-123-332-00	CAP,ELECT 47 20% 25V
C321	S	1-107-085-00	CAP,MICA 100P 5% 50V
C322	S	1-107-085-00	CAP,MICA 100P 5% 50V
C323	S	1-107-085-00	CAP,MICA 100P 5% 50V
C324	S	1-107-085-00	CAP,MICA 100P 5% 50V
C325	S	1-123-323-00	CAP,ELECT 470 20% 16V
C326	S	1-123-323-00	CAP,ELECT 470 20% 16V
C327	S	1-107-085-00	CAP,MICA 100P 5% 50V
C328	S	1-107-085-00	CAP,MICA 100P 5% 50V
C329	S	1-123-343-00	CAP,ELECT 33 20% 35V
C330	S	1-123-343-00	CAP,ELECT 33 20% 35V
C331	S	1-123-379-00	CAP,ELECT 0.47 20% 100V
C333	S	1-123-332-00	CAP,ELECT 47 20% 25V
C334	S	1-123-332-00	CAP,ELECT 47 20% 25V
C335	S	1-123-343-00	CAP,ELECT 33 20% 35V
C336	S	1-107-085-00	CAP,MICA 100P 5% 50V
C337	S	1-107-085-00	CAP,MICA 100P 5% 50V
C338	S	1-123-332-00	CAP,ELECT 47 20% 25V
C339	S	1-123-332-00	CAP,ELECT 47 20% 25V
C340	S	1-107-085-00	CAP,MICA 100P 5% 50V
C341	S	1-107-085-00	CAP,MICA 100P 5% 50V
C342	S	1-107-085-00	CAP,MICA 100P 5% 50V
C343	S	1-107-085-00	CAP,MICA 100P 5% 50V
C344	S	1-123-323-00	CAP,ELECT 470 20% 16V
C345	S	1-123-323-00	CAP,ELECT 470 20% 16V
C346	S	1-107-085-00	CAP,MICA 100P 5% 50V
C347	S	1-107-085-00	CAP,MICA 100P 5% 50V
C348	S	1-123-343-00	CAP,ELECT 33 20% 35V
C349	S	1-123-343-00	CAP,ELECT 33 20% 35V
C350	S	1-123-379-00	CAP,ELECT 0.47 20% 100V
C351	S	1-123-306-00	CAP,ELECT 47 20% 10V
C352	S	1-123-332-00	CAP,ELECT 47 20% 25V
C353	S	1-123-332-00	CAP,ELECT 47 20% 25V
C354	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C355	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C356	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C357	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C358	S	1-123-343-00	CAP,ELECT 33 20% 35V
C359	S	1-107-085-00	CAP,MICA 100P 5% 50V
C360	S	1-123-343-00	CAP,ELECT 33 20% 35V
C361	S	1-123-356-00	CAP,ELECT 10 20% 50V

Ref. No.	SP	Part No.	Description
C362	S	1-123-379-00	CAP,ELECT 0.47 20% 100V
C363	S	1-123-306-00	CAP,ELECT 47 20% 10V
C364	S	1-123-332-00	CAP,ELECT 47 20% 25V
C365	S	1-123-332-00	CAP,ELECT 47 20% 25V
C366	S	1-123-343-00	CAP,ELECT 33 20% 35V
C367	S	1-107-085-00	CAP,MICA 100P 5% 50V
C368	S	1-123-343-00	CAP,ELECT 33 20% 35V
C369	S	1-123-356-00	CAP,ELECT 10 20% 50V
C370	S	1-123-379-00	CAP,ELECT 0.47 20%100V
C371	S	1-123-306-00	CAP,ELECT 47 20% 10V
C372	S	1-123-332-00	CAP,ELECT 47 20% 25V
C373	S	1-108-579-00	CAP,MYLAR 0.01 5% 50V
C374	S	1-123-307-00	CAP,ELECT 100 20% 10V
C375	S	1-108-603-00	CAP,MYLAR 0.1 5% 50V
C376	S	1-123-330-00	CAP,ELECT 22 20% 25V
C377	S	1-123-369-00	CAP,ELECT 4.7 20% 63V
C378	S	1-123-307-00	CAP,ELECT 100 20% 10V
C379	S	1-123-332-00	CAP,ELECT 47 20% 25V
C380	S	1-123-336-00	CAP,ELECT 470 20% 25V
C381	S	1-123-336-00	CAP,ELECT 470 20% 25V
C382	S	1-123-333-00	CAP,ELECT 100 20% 25V
C383	S	1-123-333-00	CAP,ELECT 100 20% 25V
CN301	O	1-564-250-00	PIN,CONNECTOR 15P
CN302	O	1-560-156-00	PLUG,CONNECTOR 12P
CN303	O	1-560-123-00	PLUG,CONNECTOR 3P
CN304	O	1-560-123-00	PLUG,CONNECTOR 3P
CN305	O	1-560-123-00	PLUG,CONNECTOR 3P
CN306	O	1-560-123-00	PLUG,CONNECTOR 3P
CN307	O	1-560-123-00	PLUG,CONNECTOR 3P
CN308	O	1-560-124-00	PLUG,CONNECTOR 4P
CN309	O	1-560-128-00	PLUG,CONNECTOR 8P
D301	S	8-719-911-19	DIODE 1SS119
D302	S	8-719-911-19	DIODE 1SS119
D303	S	8-719-911-19	DIODE 1SS119
D304	S	8-719-911-19	DIODE 1SS119
D305	S	8-719-911-19	DIODE 1SS119
D306	S	8-719-911-19	DIODE 1SS119
D307	S	8-719-911-19	DIODE 1SS119
D308	S	8-719-911-19	DIODE 1SS119
D309	S	8-719-911-19	DIODE 1SS119
D310	S	8-719-911-19	DIODE 1SS119
D311	S	8-719-911-19	DIODE 1SS119
D312	S	8-719-911-19	DIODE 1SS119
D313	S	8-719-911-19	DIODE 1SS119
D314	S	8-719-911-19	DIODE 1SS119
D315	S	8-719-911-19	DIODE 1SS119
D316	S	8-719-911-19	DIODE 1SS119
D317	S	8-719-100-43	DIODE RD7.5E-B1
D318	S	8-719-911-19	DIODE 1SS119
D319	S	8-719-911-19	DIODE 1SS119
IC301	S	8-759-745-61	IC NJM4560D-D
IC302	S	8-759-745-61	IC NJM4560D-D
IC303	S	8-759-745-61	IC NJM4560D-D
IC304	S	8-759-745-61	IC NJM4560D-D
IC305	S	8-759-745-61	IC NJM4560D-D
IC306	S	8-759-745-61	IC NJM4560D-D
IC307	S	8-759-745-61	IC NJM4560D-D
IC308	S	8-759-745-61	IC NJM4560D-D
IC309	S	8-759-745-61	IC NJM4560D-D
IC310	S	8-759-745-61	IC NJM4560D-D
IC311	S	8-759-745-61	IC NJM4560D-D
IC312	S	8-759-745-61	IC NJM4560D-D
IC313	S	8-759-745-61	IC NJM4560D-D

Ref. No.	SP	Part No.	Description
Q301	S	8-729-312-12	TRANSISTOR 2SC1213A
Q302	S	8-729-306-72	TRANSISTOR 2SD667A
Q303	S	8-729-364-72	TRANSISTOR 2SB647
Q304	S	8-729-306-72	TRANSISTOR 2SD667A
Q305	S	8-729-364-72	TRANSISTOR 2SB647
Q306	S	8-729-312-12	TRANSISTOR 2SC1213A
Q307	S	8-729-306-72	TRANSISTOR 2SD667A
Q308	S	8-729-364-72	TRANSISTOR 2SB647
Q309	S	8-729-306-72	TRANSISTOR 2SD667A
Q310	S	8-729-364-72	TRANSISTOR 2SB647
Q311	S	8-729-312-12	TRANSISTOR 2SC1213A
Q312	S	8-729-312-12	TRANSISTOR 2SC1213A
Q313	S	8-729-195-23	TRANSISTOR 2SA952
R301	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R302	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R303	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R304	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R305	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R306	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R307	S	1-247-172-00	RES,CARBON 51K 5% 1/4W
R308	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R309	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R310	S	1-247-172-00	RES,CARBON 51K 5% 1/4W
R311	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R312	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R313	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R314	S	1-247-161-00	RES,CARBON 18K 5% 1/4W
R315	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R316	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R317	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R318	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R319	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R320	S	1-247-696-11	RES,CARBON 47 5% 1/4W
R321	S	1-247-696-11	RES,CARBON 47 5% 1/4W
R322	S	1-247-696-11	RES,CARBON 47 5% 1/4W
R323	S	1-247-696-11	RES,CARBON 47 5% 1/4W
R324	S	1-247-696-11	RES,CARBON 47 5% 1/4W
R325	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R326	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R327	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R328	S	1-247-162-00	RES,CARBON 20K 5% 1/4W
R329	S	1-247-120-00	RES,CARBON 360 5% 1/4W
R330	S	1-247-146-00	RES,CARBON 4.3K 5% 1/4W
R331	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R332	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R333	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R334	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R335	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R336	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R337	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R338	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R339	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R340	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R341	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R343	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R344	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R345	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R346	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R347	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R348	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R349	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R350	S	1-247-725-11	RES,CARBON 10K 1% 1/4W

Ref. No.	SP	Part No.	Description
R352	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R353	S	1-247-156-00	RES,CARBON 11K 5% 1/4W
R354	S	1-247-145-00	RES,CARBON 3.9K 5% 1/4W
R355	S	1-247-156-00	RES,CARBON 11K 5% 1/4W
R356	S	1-247-145-00	RES,CARBON 3.9K 5% 1/4W
R357	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R358	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R359	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R360	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R361	S	1-247-176-00	RES,CARBON 75K 5% 1/4W
R362	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R363	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R364	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R365	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R366	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R367	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R368	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R369	S	1-247-162-00	RES,CARBON 20K 5% 1/4W
R370	S	1-247-120-00	RES,CARBON 360 5% 1/4W
R371	S	1-247-146-00	RES,CARBON 4.3K 5% 1/4W
R372	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R373	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R374	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R375	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R376	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R377	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R378	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R379	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R380	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R381	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R382	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R384	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R385	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R386	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R387	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R388	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R389	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R390	S	1-247-688-11	RES,CARBON 10 5% 1/4W
R391	S	1-247-725-11	RES,CARBON 10K 1% 1/4W
R393	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R394	S	1-247-156-00	RES,CARBON 11K 5% 1/4W
R395	S	1-247-145-00	RES,CARBON 3.9K 5% 1/4W
R396	S	1-247-156-00	RES,CARBON 11K 5% 1/4W
R397	S	1-247-145-00	RES,CARBON 3.9K 5% 1/4W
R398	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R399	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R400	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R401	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R402	S	1-247-176-00	RES,CARBON 75K 5% 1/4W
R403	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R404	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R405	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R406	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R407	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R408	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R409	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R410	S	1-247-162-00	RES,CARBON 20K 5% 1/4W
R411	S	1-247-711-11	RES,CARBON 680 5% 1/4W

Ref. No.	SP	Part No.	Description
R412	S	1-247-146-00	RES,CARBON 4.3K 5% 1/4W
R413	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R414	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R415	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R416	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R417	S	1-247-176-00	RES,CARBON 75K 5% 1/4W
R418	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R419	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R420	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R421	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R422	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R423	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R424	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R425	S	1-247-162-00	RES,CARBON 20K 5% 1/4W
R426	S	1-247-711-11	RES,CARBON 680 5% 1/4W
R428	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R429	S	1-247-700-11	RES,CARBON 100 5% 1/4W
R430	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R431	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R432	S	1-247-176-00	RES,CARBON 75K 5% 1/4W
R433	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R434	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R435	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R436	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R437	S	1-247-721-11	RES,CARBON 4.7K 5% 1/4W
R438	S	1-247-171-00	RES,CARBON 47K 5% 1/4W
R439	S	1-247-167-00	RES,CARBON 33K 5% 1/4W
R440	S	1-246-529-00	RES,CARBON 220K 5% 1/4W
R441	S	1-206-673-00	RES,METAL 2.4K 5% 2W
R442	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
R443	S	⚠1-217-391-00	RES,FUSE 22 5% 1/4W
RV301	S	1-224-248-XX	RES,ADJ,METAL GLAZE 470
RV302	S	1-224-251-XX	RES,ADJ,METAL GLAZE 4.7K
RV303	S	1-224-248-XX	RES,ADJ,METAL GLAZE 470
RV304	S	1-224-251-XX	RES,ADJ,METAL GLAZE 4.7K
RV305	S	1-224-248-XX	RES,ADJ,METAL GLAZE 470
RV306	S	1-224-251-XX	RES,ADJ,METAL GLAZE 4.7K
RV307	S	1-224-248-XX	RES,ADJ,METAL GLAZE 470
RV308	S	1-224-251-XX	RES,ADJ,METAL GLAZE 4.7K

SUB BOARD

-	O	A-4382-230-A	COMPLETE PCB,SUB

(This assembly includes the following parts.)

C501	S	1-123-343-00	CAP,ELECT 33 20% 35V
C502	S	1-123-343-00	CAP,ELECT 33 20% 35V
C503	S	1-107-085-00	CAP,MICA 100P 5% 50V
C504	S	1-123-307-00	CAP,ELECT 100 20% 10V
C505	S	1-123-343-00	CAP,ELECT 33 20% 35V

Ref. No.	SP	Part No.	Description
C506	S	1-123-343-00	CAP,ELECT 33 20% 35V
C507	S	1-107-085-00	CAP,MICA 100P 5% 50V
C508	S	1-123-307-00	CAP,ELECT 100 20% 10V
C509	S	1-123-332-00	CAP,ELECT 47 20% 25V
C510	S	1-123-332-00	CAP,ELECT 47 20% 25V
C511	S	1-123-379-00	CAP,ELECT 0.47 20% 100V
CN501	O	1-560-124-00	PLUG,CONNECTOR 4P
CN502	O	1-564-250-00	PIN,CONNECTOR 15P
CN503	O	1-564-259-00	PLUG,CONNECTOR 13P
IC501	S	8-759-745-61	IC NJM4560D-D
R501	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R502	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R503	S	1-247-721-11	RES,CARBON 4.7K 5% 1/4W
R504	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R505	S	1-247-134-00	RES,CARBON 1.3K 5% 1/4W
R506	S	1-247-134-00	RES,CARBON 1.3K 5% 1/4W
R507	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R508	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R509	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R510	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R511	S	1-247-721-11	RES,CARBON 4.7K 5% 1/4W
R512	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R513	S	1-247-134-00	RES,CARBON 1.3K 5% 1/4W
R514	S	1-247-134-00	RES,CARBON 1.3K 5% 1/4W
R515	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R516	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R517	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R518	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R519	S	1-247-161-00	RES,CARBON 18K 5% 1/4W
R520	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R521	S	1-247-163-00	RES,CARBON 22K 5% 1/4W
R522	S	1-247-172-00	RES,CARBON 51K 5% 1/4W
R523	S	1-247-172-00	RES,CARBON 51K 5% 1/4W
RV501	S	1-237-186-11	RES,VAR,CARBON 10K
RV502	S	1-237-187-11	RES,VAR,CARBON 10K
RV503	S	1-237-186-11	RES,VAR,CARBON 10K
RV504	S	1-237-187-11	RES,VAR,CARBON 10K
SW-208 BOARD			
-	O	1-621-489-11	PC BOARD, SW-208
S1 to S8	S	1-554-380-00	SWITCH, PUSH 1 KEY
CN001	O	1-560-278-00	PLUG, CONNECTOR 8P
CN002	O	1-560-278-00	PLUG, CONNECTOR 8P

TB BOARD

-	O	A-4363-040-B	COMPLETE PCB, TB *B
		A-4363-040-A	COMPLETE PCB, TB *A

(This assembly includes the following parts.)

-	O	1-609-885-00	PC BOARD,MIC
-	O	2-380-406-00	SUPPORT,MICROPHONE
-	S	3-574-761-00	HOLDER,MICROPHONE
C701	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C702	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C703	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C704	S	1-123-343-00	CAP,ELECT 33 20% 35V
C707	S	1-123-380-00	CAP,ELECT 1 20% 100V

Ref. No.	SP	Part No.	Description
C708	S	1-123-343-00	CAP,ELECT 33 20% 35V
C709	S	1-107-085-00	CAP,MICA 100P 5% 50V
C710	S	1-123-356-00	CAP,ELECT 10 20% 50V
C711	S	1-123-356-00	CAP,ELECT 10 20% 50V
C712	S	1-123-343-00	CAP,ELECT 33 20% 35V
C713	S	1-107-085-00	CAP,MICA 100P 5% 50V
C714	S	1-123-307-00	CAP,ELECT 100 20% 10V
C715	S	1-123-332-00	CAP,ELECT 47 20% 25V
C717	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
CN701	O	1-564-248-00	PIN,CONNECTOR 12P
CN702	O	1-564-249-00	PIN,CONNECTOR 14P
CN703	O	1-560-123-00	PLUG,CONNECTOR 3P
D701	S	8-719-815-55	DIODE 1S1555
D702	S	8-719-815-55	DIODE 1S1555
D703	S	8-719-815-55	DIODE 1S1555
IC701	S	8-759-745-61	IC NJM4560D-D
IC702	S	8-759-745-61	IC NJM4560D-D
IC703	S	8-757-700-00	IC CX-770
MIC1	S	8-814-189-31	MICROPHONE,BUILT-IN (C-1007A)
Q701	S	8-729-195-23	TRANSISTOR 2SA952
Q702	S	8-729-600-27	TRANSISTOR 2SC634-SP
R701	S	1-247-162-00	RES,CARBON 20K 5% 1/4W
R702	S	1-247-162-00	RES,CARBON 20K 5% 1/4W
R703	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R704	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R705	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
R706	S	1-249-460-11	RES,CARBON 15K 5% 1/4W
R707	S	1-246-526-00	RES,CARBON 160K 5% 1/4W
R708	S	1-246-525-00	RES,CARBON 150K 5% 1/4W
R709	S	1-246-525-00	RES,CARBON 150K 5% 1/4W
R710	S	1-247-153-00	RES,CARBON 8.2K 5% 1/4W
R711	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R712	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R713	S	1-247-137-00	RES,CARBON 1.8K 5% 1/4W
R714	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R715	S	1-247-712-11	RES,CARBON 820 5% 1/4W
R716	S	1-247-177-00	RES,CARBON 82K 5% 1/4W
R717	S	1-247-142-00	RES,CARBON 3K 5% 1/4W
R718	S	1-247-151-00	RES,CARBON 6.8K 5% 1/4W
R719	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R720	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R721	S	1-247-713-11	RES,CARBON 1K 5% 1/4W
R722	S	1-247-154-00	RES,CARBON 9.1K 5% 1/4W
R723	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R724	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R725	S	⚠1-217-395-00	RES,FUSE 47 5% 1/4W
R726	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R727	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R728	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R729	S	1-249-469-11	RES,CARBON 100K 5% 1/4W
R730	S	1-247-725-11	RES,CARBON 10K 5% 1/4W
RV701	S	1-237-186-11	RES,VAR,CARBON 10K
RV702	S	1-237-184-11	RES,VAR,CARBON 10K/10K
RV703	S	1-224-643-XX	RES,ADJ,CARBON 2.2K
S701	S	1-554-473-00	SWITCH,PUSH (1 KEY)

Ref. No.	SP	Part No.	Description
FRAME			
-	S	⚠1-447-574-00	TRANSFORMER,POWER (For J and UC Models)
	S	⚠1-447-575-00	TRANSFORMER,POWER (For AE Model)
-	S	⚠1-532-299-00	FUSE,TIME-LAG 5A (For AE Model)
	S	⚠1-532-704-00	FUSE 5A (For J and UC Models)
-	S	1-533-102-XX	HOLDER,FUSE
-	S	⚠1-553-028-00	SWITCH,SLIDE (VOLTAGE SELECT) (For AE Model)
-	S	⚠1-553-840-00	SWITCH,PUSH (For J and UC Models)
	S	⚠1-553-841-00	SWITCH,PUSH (For AE Model)
-	O	1-609-884-00	PC BOARD,LED
-	O	1-618-122-11	PC BOARD,CN-123
C1	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C2	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C3	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C4	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C5	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C6	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C7	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C8	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C9	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
C10	S	1-106-172-00	CAP,MYLAR 0.001 5% 100V
CN101-1	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN101-2	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN101-3	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN101-4	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN101-5	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN1-1-6	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN101-7	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN101-8	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN102-1	O	1-937-392-11	HARNESS (10)
CN102-2			
CN102-3			
CN102-4			
CN102-5			
CN102-6			
CN102-7			
CN102-8			
CN301			
CN502			
CN601			
CN103	O	1-561-238-00	PLUG,HOUSING,3P
	S	1-535-249-00	CONTACT,FEMALE

Ref. No.	SP	Part No.	Description
CN115	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN123	S	1-560-712-00	PLUG,CONNECTOR,15-PIN D-SUB
CN215	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN303	O	1-561-238-00	PLUG,HOUSING,3P
	S	1-535-249-00	CONTACT,FEMALE
CN304	O	1-561-238-00	PLUG,HOUSING,3P
	S	1-535-249-00	CONTACT,FEMALE
CN305	O	1-561-238-00	PLUG,HOUSING,3P
	S	1-535-249-00	CONTACT,FEMALE
CN306	O	1-561-238-00	PLUG,HOUSING,3P
	S	1-535-249-00	CONTACT,FEMALE
CN307	O	1-561-238-00	PLUG,HOUSING,3P
	S	1-535-249-00	CONTACT,FEMALE
CN308	O	1-561-239-00	PLUG,HOUSING,4P
	S	1-535-249-00	CONTACT,FEMALE
CN309	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN315	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN406	S	1-509-176-51	RECEPTACLE,MALE,XLR3P
CN407	S	1-509-176-51	RECEPTACLE,MALE,XLR3P
CN415	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN501	O	1-561-239-00	PLUG,HOUSING,4P
	S	1-535-249-00	CONTACT,FEMALE
CN515	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN602	O	1-937-393-11	HARNESS (11)
CN702			
CN604	O	1-561-239-00	PLUG,HOUSING,4P
	S	1-535-249-00	CONTACT,FEMALE
CN615	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN701	O	1-937-394-11	HARNESS (12)
CN805			
CN703	O	1-561-238-00	PLUG,HOUSING,3P
	S	1-535-249-00	CONTACT,FEMALE
CN715	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN802	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN805	O	1-561-241-11	PLUG,HOUSING,6P
	S	1-535-249-00	CONTACT,FEMALE
CN815	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN902	O	1-562-294-11	PLUG,HOUSING,20P
	S	1-535-249-00	CONTACT,FEMALE
CN903	O	1-562-294-11	PLUG,HOUSING,20P
	S	1-535-249-00	CONTACT,FEMALE
CN904	O	1-561-243-00	PLUG,HOUSING,8P
	S	1-535-249-00	CONTACT,FEMALE
CN905	S	⚠1-509-547-00	3P INLET
CN906	S	1-507-866-00	JACK,EXTENTION POWER
CN915	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P
CN916	S	1-509-184-51	RECEPTACLE,FEMALE,XLR3P

Ref. No.	SP	Part No.	Description
D905	S	1-806-650-11	DIODE (LED BLOCK)
D906	S	1-806-650-11	DIODE (LED BLOCK)
D907	S	8-719-504-40	DIODE S4VB40
D908	S	8-719-812-41	DIODE TLR124
D909	S	8-719-812-41	DIODE TLR124
J101	S	1-507-867-00	JACK,PIN 8P
J102	S	1-563-235-11	JACK,PIN 10P
RV118	S	1-237-361-11	RES,VAR,SLIDE 20K
RV218	S	1-237-361-11	RES,VAR,SLIDE 20K
RV309	S	1-237-360-11	RES,VAR,SLIDE 20K/20K
RV310	S	1-237-361-11	RES,VAR,SLIDE 20K
RV311	S	1-237-361-11	RES,VAR,SLIDE 20K
RV318	S	1-237-361-11	RES,VAR,SLIDE 20K
RV418	S	1-237-361-11	RES,VAR,SLIDE 20K
RV518	S	1-237-361-11	RES,VAR,SLIDE 20K
RV618	S	1-237-361-11	RES,VAR,SLIDE 20K
RV718	S	1-237-361-11	RES,VAR,SLIDE 20K
RV818	S	1-237-361-11	RES,VAR,SLIDE 20K

ACCESSORIES SUPPLIED

Qty	SP	Part No.	Description
1	S	⚠1-534-754-00	CORD,POWER (For J Model)
1	S	⚠1-551-812-00	CORD,POWER (For UC Model)
1	S	⚠1-555-234-00	CORD,POWER (For AE Model)

第2章　サービスインフォメーション
SECTION 2　SERVICE INFORMATION

基板配置図
CIRCUIT BOARDS LOCATION

